TECHNOLOGY DEPT.

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

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JAN 26 1933 DETROIT

First Copy

December New Car Sales In 35 States Top November; Total Is Below 1931 Mark

Commercial Car Sales in Same States Total 7,190, As Against 10,006 in 1931 and 7,310 In November

Detroit, Mich., Jan. 23.—Sales of new passenger automobiles during December in thirty-five states, representing 77.46 per cent. of the entire country, reached 34,370 units, according to R. L. Polk & Co.

This figure represents a 5.3 per cent. increase over November sales of 32,653 units, and a decrease of 42.8 per cent. under sales of 60,083 units during December, 1931, in the same states.

Estimated total passenger car sales for December are 47,000 units. This compares with 77,564 in December, 1931.

New truck sales during December in thirty-five states totaled 7,190 units, a 28.1 per cent. decrease under sales of 10,006 units in December, 1931, and a 1.6 per cent. decrease under sales of 7,310 units in November, in the same state.

ROAD BUILDERS EVOLVE RECOVERY PROGRAM

Detroit, Jan. 23.—With the 1933 convention of the highway and construction industry a matter of history, the work accomplished by this gathering of all the leading executives in this field, may be viewed in detail.

In its first formal decision, the allied industry went on record as unalterably opposed to the dole system, recommending as an effective substitute the inauguration of a program of sound and needed public works. It further urges the enactment of legislative measures necessary to hasten the resumption of private construction and industry. Highways, waterways and other

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BALTIMORE SHOW ATTENDANCE HEAVY; SALES RUN STRONG

Baltimore, Md., Jan. 23.—Turned out into the cold a week before the scheduled opening date, when a fire destroyed the Fifth Regiment Armory, scene of the last seventeen annual exhibits, Baltimore's twenty-seventh annual automobile show opened Saturday, "as advertised," and yesterday chalked up the largest afternoon "gate" in show history.

It was the first Sunday the show had ever been kept open, and an impatient crowd formed outside the ticket windows some time before the scheduled hour of 2 p. m. All afternoon they kept coming, and before the arrival of the supper-time letdown an afternoon paid attendance record had been set.

The show is being held in the building of Montgomery, Ward & Co., a site selected by the show committee after a frantic search for space following the early morning conflagration which destroyed the big armory where Wilson was nominated for President. Work on the decoration of the building had been started before the fire, and much of the decorative material was lost. Before the flames had cooled, the show committee of the Baltimore Automobile Trade Association was in session with John E. Raine, gen-

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In and About the Plants

By Chris Sinsabaugh

Chevrolet

While no definite figures are being given out, it is understood that Chevrolet production in January will exceed that of December, with the outlook for continued activity in February exceedingly bright. It is possible that February may equal, if not exceed, January, despite the short month . . . December production was largely used for stocking dealers, and January's is being devoted to filling retail orders, so the fact that January's production will be larger is indicative of the warm reception that has been given the new Chevrolet . . . There is said to be a car shortage, occasioned by early buying, and, therefore, plants are being rushed to catch up. Then, too, there is a reflection of the New York show in this activity. Chevrolet's success there is said to have been so marked that it, too, is counting heavily in the increased production . . . The new line of trucks, announced at New York, but introduced privately in December, has clicked, it is declared, and one of the results is an order to the Indianapolis body plant to increase production of bodies to meet the needs for them.

Dodge

Expansion of the Dodge 1933 sales machine is keeping executives busy, and A. vanDerZee, general sales manager, is modestly pointing to the fact that in December 105 new dealers were enrolled . . . It is noticeable, says Mr. vanDerZee, that Dodge franchises are being sought by experienced dealers and that many of them are also selling higher priced cars. One notable example of this is found in the case of the

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S. A. E. Sessions Get Under Way With Attendance of 700 to 900

Monday Technical Sessions at Detroit Largely Devoted to Motor Truck Interests; Diesels To Be Discussed Tuesday

Detroit, Jan. 23.—Although the clans were somewhat slow in gathering this morning for the first technical session of the annual meeting of the Society of Automotive Engineers, indications point to a registration for the week of from 700 to 900 engineers. This is considered a remarkable showing in this depression period and an evidence of the great interest that is being taken in this annual gathering of the knights of the blueprint.

Among the prominent members of the society to arrive this morning were Dr. H. C. Dickinson of Washington, president-elect of the S. A. E. With him was A. J. Scaife of the White Company, the retiring chief executive. Then there were a couple of past presidents thrown in for good measure, Edward Warner, editor of Aviation, and B. B. Bachman of Autocar.

The technical session set for today was largely concerned with the motor truck division of the industry, with a discussion of Diesels scheduled for tomorrow. In another column of this issue of Automotive Daily News appears a detailed presentation of papers read at the technical sessions today .

G. M. C. ANNOUNCES TWO TRUCK MODELS WITH NEW ENGINE

Detroit, Jan. 23.—Following the recent announcement of a new, light-duty, truck-built engine designed for greater power, sustained torque delivery and economy, the General Motors Truck Company is now presenting two improved truck models equipped with this motor. The improved models are the T-18, of 1½ to 2 tons capacity, and the T-23, the 2-3-ton job.

With the development of the engine, known as "221" because of its cubic inch displacement, and the two improved chassis, the General Motors Truck Company now has a balanced line of truck-built com-

(Continued on Page 4)

TODAY'S S.A.E. PROGRAM TAKES UP DIESELS

Detroit, Jan. 23.—The program for the S. A. E. sessions to be held Tuesday, January 24, is as follows:

10 a. m.—Diesel session; A. J. Poole, chairman; "Testing With the Farnboro Electric Indicator," E. T. Vincent, Continental Aircraft Engine Company; "Fuels for High-Speed Oil Engines," Max Hofmann, Waukesha Motor Company.

2 p. m.—Aircraft engines; P. B. Taylor, chaiman; "Indirect Air Cooling of Aviation Engines," J. H. Geisse, consulting engineer, Madison, Wis.; "Flight Test Equipment and Methods," A. L. MacClain, Pratt & Whitney Aircraft Company, and D. S. Hersey, United Aircraft and Transport Corporation; "Recently Developed Flight Test Methods," F. M. Thomas and H. W. Fairchild, United Aircraft and Transport Corporation; "Propellers," F. W. Caldwell, Hamilton Standard Propeller Company, and F. M. Thomas, United Aircraft and Transport Corporation.

8 p. m.—Business session; President A. J. Scaife in the chair. Nomination and election of members-at-large of annual nominating committee. Announcement of election of officers for 1933. "A Philosophy of Economics," President-elect H. C. Dickinson.

9 p. m.—Aircraft session; W. B. Stout, chairman; "Air Transportation Systems of the United States," Col. C. M. Young, assistant secretary of commerce.

JERSEY CITY SHOW HAS BIG ATTENDANCE

Jersey City, N. J., Jan. 23.—The Jersey City Automobile Show opened Saturday and will continue for one full week at the Midtown Auto Salon. The show was open Sunday for the benefit of the people that could not attend at any other time. Saturday's crowd was estimated at 6,000, with 4,000 on Sunday. The guest of honor opening night was Commissioner Arthur Potterton.

The following dealers are members of the executive committee in charge of the show: Andrew Gambino, Jacob Wacker, Reuben Bennett, Frank Galland, Fred Bonnet,

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TWO FORD 8S ON 105 AND 112-IN. CHASSIS ARE LATEST REPORT

New York, Jan. 23.—Reports that the new Ford lines, which are expected to be announced in the immediate future, will consist of two eight-cylinder models on wheelbases of 112 and 105 inches, respectively, and with a base price of $400, delivered in New York city, are given out here from what is considered reliable sources, but, of course, lack official confirmation.

According to this story both lines of eights are to be powered by V-type engines, and the larger line will offer a complete series of bodies. The smaller line will be limited to fewer body selections. No definite details as to body and engine design changes are given.

The four-cylinder engine, it is said, will be continued, but will be limited to use in commercal units only. Rumors in Detroit, which were previously carried in Automotive Daily News, indicates that the Ford Motor Company may make public announcement of its new lines during the latter part of the present week, with the new car actually placed on public display at a private exhibit during the Chicago National Show.

YOUNGSTOWN STEEL OPERATIONS DECLINE

Youngstown, O., Jan. 23.—Youngstown district stel plant operations this week declined to 15 per cent. of capacity, compared with 19 per cent. on January 14, because of several suspensions and reductions of ingot output in district mills.

Automibile steel buying has not improved appreciably in the last few days, although it still is a leading factor in maintaining schedules in district sheet and strip mills. The momentary lull in automotive

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Describes Rubber-Tired Rail Coach to S. A. E.

Detroit, Jan. 23.—Reasons behind the rubber-tired rail coaches built by the Edward G. Budd Manufacturing Company were described in the first afternoon session of the S. A. E. meeting, which opened here today.

Besides outlining some of the economic reasons behind this development, Col. E. J. W. Ragsdale, the author of the paper entitled "The Why and How of the Rubber-Tired Rail Coach," described many features of construction. An absract of his paper follows:

The pneumatic-tired railroad coach is the product of two separate developments; namely, a wheel and tire adapted to rail service by Michelin et Cie, in France, and a system of lightweight steel construction developed by the Budd company in America.

Railroads are facing a crisis in operating costs, the urge toward reduction of unnecessary weight has become widespread and the crusade for noise abatement is no longer to be denied. The pneaumatic-tired railroad coach not only answers these requirements, but anticipates a demand for a new traveling comfort. It is not merely a bus constrained to run on rails, nor is it a railroad car stripped to accommodate rubber tires. It is a vehicle conceived in the light of a better service and designed without thought of precedent or convention. Seldom has the engineer enjoyed wider latitude.

The desire to rubberize railroad equipment is old and much money has been expended in fruitless experimentation with solid-rubber or cushion tires, foredoomed to failure, for the bearing capacity of rubber is slight compared with that of metal. The rail head is narrow and the load-carrying area can be established only by lengthening the contract. Solid rubber lacks sufficient flexibility; even pneumatics have to be specially designed toward this end. Lateral distortion does not increase the tread as in highway service; in fact, being unsupported, the sides of the tread may

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FIRST DAY CROWD AT HARTFORD SHOW SETS NEW RECORD

Hartford, Conn., Jan. 23.—Attendance on Saturday, the opening day of the Hartford Automobile Show, shattered all opening day records for the exhibit, which has been staged annually for twenty-six years by the Hartford Automobile Dealers' Association. Arthur Fifoot, show manager, said 1,000 paid admissions were checked two hours after the doors opened.

Within five minutes after the show was opened, the tolling of a large bell in the center of the armory floor announced the first sale. The first car sold was a Packard eight sedan priced at $2,625. The deal was closed by Fred Leishman, who has sold Packards for twelve years and has been in the automobile industry eighteen years.

Ten minutes later a second sale was recorded. It was a Chrysler Imperial sedan sold by Stanley Dennett for $1,735. Again the bell proclaimed its cheerful announcement, and the figures were posted on the wall of the armory. Shortly afterward another Packard eight was sold for $2,050.

A $5 gold piece was awarded to Mr. Leishman by A. C. Hine, a member of the show committee and originator of the "ring in the sales" idea. Spectators, dealers and salesmen applauded loudly.

Ideal weather marked the opening of the show, a factor which in large measure accounted for the exceptional attendance. The admission charge this year is 25 cents.

A model home, completely furnished, stands on the armory floor. It is an innovation at Hartford shows and attracted much interest. It represents the home of a suburban dweller who needs a car for transportation to the city.

Three hundred and fifty dealers, salesmen and guests attended a banquet Friday night at the Hotel Bond on the eve of the show. Major H. H. Skerrett, Jr., president of the dealers' association, told how the organization had been formed twenty-six years ago, and introduced Clarence T. Hubbard of the Aetna Life Insurance Company as toastmaster.

Speakers included Mayor William J. Rankin, A. C. Hine, Arthur A. Nielsen, president of the Connecticut Automobile Dealers' Association, and Frazar B. Wilde, vice-president in charge of sales Connecticut General Life Insurance Company.

Mr. Wilde, who was the principal speaker, told of the selling policies of the insurance business and urged the dealers to stress safety, efficiency and economy rather than non-essential "gadgets."

Following the dinner and speaking program, entertainment was presented by members of several automobile firms. These included K. F. Beauchene, J. P. Nielsen & Sons; F. W. Bonney, Hartford Buick Company; William Walker's Pierce-Arrow Troubadours of Pierce-Arrow Hartford Company; the "Unknown Thespians" of Taber Cadillac Corporation; Edward Fenn, Motor Sales Company, and Philip Perrin, Allie Osblack, Joseph Martin and Nathan Dressler, all of the Capitol Chevrolet Company.

OKLAHOMA DEBATES LICENSE EXTENSION

Oklahoma City, Okla., Jan. 23 (UTPS).—An extension of the period within which 1933 automobile license tags must be obtained by ninety days is contained in Senate Joint Resolution 5, introduced into the state Senate by Senator Ballard. The bill has been referred to the committee on roads and highways for consideration.

Unless the resolution is adopted license tags must be obtained by March 1, 1933, and on April 1 a penalty of 10 cents a day would become effective for failure to obtain the license tag. Under the terms of the resolution automobile owners might have a period of ninety days after March 1 within which to obtain the required tax without penalty.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

REVISION OF AUTOMOBILE FEES URGED BY KANSAS

Topeka, Kan., Jan. 23.—Increases in registration fees for trucks and trailers and more rigid enforcement of the gasoline tax law will enable the state to reduce the fees on private automobiles and at the same time pay the highway department's indebtedness and estimated expenditures for the next biennium and still leave more than $2,500,000 for new construction, it was stated by Gov. Alf M. Landon in a special message to the Legislature.

He said that to accomplish this it will be necessary to collect $2,000,000 from owners of private cars, but this will permit a reduction of the fee to less than $3. The present law provides a minimum fee of $8. He urged increases in the fees for trucks.

PLANT EMPLOYMENT GAINS IN DECEMBER

Washington, Jan. 23.—Well consolidated gains in both employment and pay rolls in the automotive industry in December are indicated by reports from both the Bureau of Labor Statistics and the U. S. Employment Service of the Department of Labor.

Automotive employment increased by 11.3 per cent. and pay rolls by 15.6 per cent., according to the Bureau of Labor Statistics. This increased activity, however, was not approximated in the rubber tire and tube, where an increase of one-half of 1 per cent. occurred in both employment and pay rolls.

The stepping up of production schedules in automobile factories throughout the country resulted in heavy increases in employment, which were reflected in lesser degree in accessory and rubber-tire plants in a few localities, according to the report of the U. S. Employment Service. Capacity production and overtime occurred in a few factories, although the industry, as a whole, remained on a curtailed basis.

Thousands of furloughed employees were recalled to the major automobile and automobile body plants of Michigan during December, with 17,000 such workers returning to the pay roll in the Detroit industrial section alone. Overtime was reported in cetrain automobile factories in both Detroit and Flint.

Satisfactory schedules were reported in the major automobile and automobile accessory plants of Indiana, including those of Indianapolis, Muncie and La Fayette.

STUDEBAKER DEALERS IN CANADA MEET

Toronto, Canada, Jan. 23 (UTPS).—When Studebaker, Rockne, Pierce-Arrow and White dealers from many central Canadian cities gathered at the Royal York Hotel here for their annual get-together luncheon, C. N. Galer, general sales manager of the Studebaker and associated companies, announced that the scheduled production for January of the Studebaker Corporation of Canada, Ltd., already had been exceeded by the demand.

D. R. Grossman, vice-president and general manager of Studebaker Corporation of Canada, presented gold medals to three Ontario dealers who, continuously for twenty years, have distributed Studebaker products, those dealers being W. J. Maguire, Chatham; A. J. Frose, Owen Sound, and A. C. Robertson, Cornwall.

Addresses to the gathering also were given by J. L. Stewart, general manager of the Canadian Automobile Chamber of Commerce, and Russell T. Kelley, Hamilton, Ont., president of the Russell T. Kelley Advertising Agency.

HOFFMAN TO SPEAK AT SYRACUSE BANQUET

South Bend, Ind., Jan. 23.—Paul G. Hoffman, president of the Studebaker Sales Corporation of America, has accepted an invitation to address the Silver Anniversay Automobile Show Banquet at Syracuse, N. Y., Thursday, January 26. This meeting is being sponsored by the Syracmuse Automobile Dealers' Association, and will be attended by men associated with the automobile business throughout central New York state.

CONNECTICUT GETS SIX BILLS AIMED AT CAR INDUSTRY

Hartford, Conn., Jan. 23.—Six bills affecting the automotive industry have been introduced in the Connecticut General Assembly here during the early days of the session. A number of others, including some of the most important, are expected to be filed before the period for introduction of new business closes.

Bills containing the following provisions have been introduced to date: Reducing motor vehicle fees by one-third repealing motor vehicle guest law, which affects the liability of a car owner or operator to so-called guests; increasing present 2-cent gasoline tax to 3 cents; including automobiles in property under chattel mortgages, requiring that all conditional sales agreements shall be filed in the office of town clerks within ten days after a transaction and making for public service operators' licenses $2.

In addition to these measures which directly affect the industry, there are a number of other proposals governing factory employment of women and minors, which are of interest to the state's automobile parts manufacturers. These bill would establish a minimum wage scale for minors, reduce the number of hours and regulate the time of day that women may be employed and set up standards of sanitation and supervision.

INVESTIGATION ASKED INTO CRUDE OIL CUTS

Washington, Jan. 23.—A move to provide for an investigation of the recent reduction in the price of crude oil was made in the Senate with the introduction by Senator Thomas (Dem., Okla.), of a resolution (S. Res. 339) directing the Federal Trade Commission to make such an inquiry.

"The announcement of a sweeping cut of the top level of 77 cents to 52 cents per barrel not only involves the ruin of countless numbers of small companies but means that hundreds of thousands will be impoverished and the one industry which, in the words of the Federal Oil Conservation Board was leading the way back to prosperity is being so handicapped that its face is turned toward a deeper depression," Mr. Thomas declared in a statement on his proposal.

"This situation is so vitally important to our economic future and has such immediate relation to all our tax problems, whether we consider special taxes or income taxes, that a proposal for investigation either by this body or by the Federal Trade Commission is warranted," he said.

SPRINGFIELD DEALERS ELECT NEW OFFICERS

Springfield, Ill., Jan. 23.—At the annual election of officers at the Springfield Auto Dealers Association, J. B. Newman of Newman Brothers Studebaker, Rockne and Pierce-Arrow dealers, was named president; J. F. Connelly of the Connelly Chevrolet Company was elected vice-president and Ralph N. Baker of the Illini Motor Company, treasurer. Directors for the coming year were William McKenzie, Paul Penewitt and C. F. Streiff.

The arrangements for the annual automobile show were completed at the meeting. The show will be held February 9, 10 and 11. The firms exhibiting are: Springfield Buick Company, Jennings Auto Sales, Illini Motor Company, Connelly Chevrolet Company, Hatcher-Joseph, Inc., R. C. Schell Motor Company, McKenzie-Nash Company, Glisson Motor Company, MacDonald Auto Sales, Newman Brothers;, Elliott-Van Brunt, Inc., and the Lynd Motor Sales. The secretary of the association, W. F. Dagon was named show manager.

CANADIAN NATIONAL SHOW SALES VALUED AT $200,000

Toronto, Canada, Jan. 23 (UTPS).—With a day of the show still to go, sales of new cars at the Canadian National Motor Show here total 150 cars valued at approximately $200,000.

SPARKS *from* DETROIT

Ad Statistics

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O-Kay, Herbie Chase

* * *

Cars and Trucks

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Baker in New Role

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Chris Sinsabaugh—Detroit Editor

KNOWING his reputation as being one of the kingpin statiscians of the automobile industry, I had been counting on John W. Scovell of Chrysler to read the tea leaves and tell us something about what's ahead of the automobile industry when he made his talk before the Detroit Aircraft Club on "Facts, Fancies and Foibles in Advertising."

Instead of that, he dealt in generalities, but I must admit the generalities were full of meat and gave us in the audience something to chew on—the reaction of the statistician who is called on by the advertising department for facts and figures in planning campaigns.

* * *

SCOVELL DESCRIBED an advertising man as a genius who starts out with the cheapest of all raw materials—words—which can be bought a hundred for a penny. Ten cents' worth of words, mixed with about $16 worth of brains, creates an advertisement that sells for $10,000, he said.

In his opinion, there are just four things about advertising that the manufacturer or merchant needs to know: "How much shall I spend?" "What shall I say?" "Where shall I say it?" and "When shall I say it?" And he went on to offer a good suggestion that there should be a case book on advertising giving the advertising experiences of hundreds of firms, showing by years or by months over a long period of time, and in parallel columns, the sales, profits and the volume of advertising, a study that is the very foundation of advertising research. A statistician would think of that!

* * *

OUR SPEAKER DID get down to brass tacks in one instance when he told of a survey on automobile advertising, where curves were constructed for each make of car for three years by months. One curve showed the per cent. of the automotive advertising for a given car; the other curve the per cent. of dollar volume of automobile sales for that particular car. Result: A 10 per cent. increase in the advertising expense gave about 1 per cent. increase in sales.

I am overrunning my space, but I must record the laugh Scovell got when, in discussing the American tendency to worship size, he said: "Why do we boast of the double spread or the quadruple or quintuple spread? Have we any reason for thinking that the love life of the mosquito is less estatic than the amorous capers of the mastodon? Gentlemen, is there any virtue in bigness?"

* * *

"YOU'RE A BETTER MAN than I am, Gunga Din," says I to Herbert Chase, as I take off my reporter's star and pin it on the breast of the new engineering editor of Automotive Daily News, who is in our midst this week for the annual production meeting of the Society of Automotive Engineers. Herb's not only got to report the doings at the Book Cadillac, but he also is down to read a paper "Pertinent Pokes for Satisfied Engineers," tomorrow. That's going to leave me foot-loose to pick up "Sparks," and not have to wrestle with engineering discussions and the like, plain Greek to me.

Chase is an old colleague of mine from the Class Journal days, one of the few technical editors I know who can write on engineering subjects so that not only the layman can understand them, but his fellow engineers also recognize he knows what he is talking about. You'll like his stuff.

* * *

TALKING WITH JAMES J. McMAHON of the Corn Belt Farm Dailies about the new $360 half-tonner International Harvester exhibited at the road show last week, Mac told me that the farmers are going strong for little commercial jobs; that many of them, unable to afford new passenger cars, are buying the little trucks and using them in a dual capacity—trucking and also to ride to town and back. In consequence, the truck makers are paying more attention to riding qualities, and making sales in consequence.

* * *

CANNONBALL BAKER, greatest of transcontinental record breakers, and the man who set the record up Mount Washington for Graham-Paige, is on the Graham pay roll steady now. Baker is to embark shortly upon a nation-wide program for Graham for the promotion of motoring safety and the education of dealers, salesmen and car owners on the factors which contribute to greater driving security.

Retail Salesmen—This Is Your Page

This department is devoted to the interests of the retail sales division of the industry. Salesmen, this is your department. Automotive Daily News wants you to get something from this department that will help you in your work on the firing line. It wants you to pass on your own experiences, success, failures to help your brother salesmen. Send in your story in the form of a letter, or even a postal card, and let us get it ready for publication. Your achievement or your mistake may help another salesman to make sales or avoid errors that cost you commissions.

Dealers read this page. Give us the benefit of your reactions on these problems that affect the work of your salesmen, the men on the firing line, the men who bring home the bacon or don't.

LAWS THAT MAKE TROUBLE FOR THE DEALER

In a bulletin just issued by the Northern California Dealers' Association, there is a communication from E. A. Eymann of the E. A. Eymann Motor Company of San Francisco, which brings up a number of legal questions affecting dealers. Many of our readers have, no doubt, encountered similar difficulties in the laws of their states and we pass on Mr. Eymann's remarks for their benefit:

The writer has just glanced through the Motor Car Dealers Association of San Francisco's News Letter. There were two articles in this letter that particularly interested the writer, one being the new priority lien law, as proposed by independent repair shops. Without doubt this would work very much of a hardship on the dealers, as outlined in this letter. It has been our idea for some time that the law should be changed. However, our idea was that the law should be changed so that a car showing a legal owner could not be held in an amount in excess of $25. Where a legal owner's name, other than the registered owner's name, appears on the certificate, the repair man always has access to this information, and if he does not know a customer's financial standing, he should avail himself of this information and make his sale on the basis of the customer's credit standing and not be allowed to fall back on the legal owner, as is often done. Our experience has been that very often when a purchaser under contract decides to abandon his car, he runs the same into a garage and orders a certain amount of repair work done, for which the legal owner has to pay before being able to secure his property. We have run into this matter a great many times, as no doubt other dealers have also done.

This same News Letter contains an article on the sale of cars to minors. It seems to us that this law is very unjust when a minor is allowed to go into a dealer's place of business, sign a statement to the effect that he is twenty-one or more years of age, and later establishes the fact that he is not twenty-one years of age, is allowed to return the property, or in a case where the purchaser is under eighteen years of age, is able to retain the property and collect any money paid. It seems to us that when a party deliberately misrepresents his age and obtains property under false pretenses, there should be a law to punish such an offender. We have been victimized twice under these circumstances, in both cases the parties having signed statements to the effect that they were twenty-one or more years of age, and their mature appearance would deceive the most critical.

There is also another matter that has occurred to us that should give a motor dealer considerable relief, and would aid in the recovery of cars sold under contract, which cannot be located by the seller. Out thought was a provision making it necessary for a car that bears a legal ownership, the the registered owner must first obtain the release from the legal owners before being allowed to obtain a renewal of registration. This would either make it necessary for a purchaser that had bought a car under contract, and whose whereabouts were not known to the legal owner, to make known his whereabouts to the legal owner, or the car would have to be abandoned for the reason that new registration could not be obtained.

The above-mentioned suggestions are simply ideas that the writer has had for some time, and no doubt in each case there can be found plenty arguments against these suggestions, but perhaps there may be some good in one or all of them, and we are passing them along for what they might be worth.

NOYES CO. TO HANDLE OLDSMOBILE SALES IN BOSTON TERRITORY

Boston, Mass., Jan. 23.—The welding together of two outstanding names in the automobile industry took place yesterday—Noyes and Oldsmobile—when it was announced by F. C. Sibley, B. O. P. zone manager, that the Noyes Buick Sales Company at 859 Commonwealth Ave., would take over the retailing of Oldsmobile for metropolitan Boston. From now on, one-half of the Noyes showroom will be devoted to the display of Oldsmobiles, and the servicing of all Oldsmobiles will be handled at the Noyes Service Station, 25 St. Paul St.

The Noyes organization dates back to the early years of the twentieth century, when H. K. Noyes opened a small automobile store and garage in Lowell and obtained the dealership for three cars—one of which was Buick. As a result of his expanding business and an ever-growing list of customers, in 1908 Mr. Noyes was made branch manager for Buick in Boston. Headquarters were established in the old Park Square Motor Mart, and additional space was leased for parts and the warehousing of automobiles. Buick in New England prospered under Mr. Noyes' management, and in 1915 he obtained a distributor's franchise, incorporating under the name of Noyes Buick Company. Three years later new building plans were started, and in August, 1920, the entire business was moved into its present home, 855 to 859 Commonwealth Ave.

In 1933, H. K. Noyes & Son, Inc., was organized to handle real estate, financing and general warehousing—thus achieving tremendous economies and added convenience. Buildings with a 3,500 car capacity and railroad sidings were purchased on the Waltham-Watertown line, and a bonded warehouse established. Rereiving, unloading, and the routing of cars direct to purchasers in the shortest and most economical manner became a big money-saver, not available to most other automobile concerns. In 1928, expansion was again necessary and a new two and one-half acre service station was erected at 25 St. Paul Street, convenient to the main building on Commonwealth Avenue.

C. S. Henshaw, manager of the Noyes Buick Sales Company, will have supervision over the new Oldsmobile sales unit. Harry Hartley, who has been sales manager in Boston for Oldsmobile, joins the Noyes organization in the same capacity, together with his entire sales staff. The servicing of Oldsmobile will be in charge of J. W. Leonard, Noyes' superintendent of service.

Mr. Noyes enters his twenty-ninth year of automobile achievement with implicit confidence in the future.

Dealer Activities

SEATTLE, WASH.

Roy W. Corbett, sales manager of Clark Cadillac Company, has been elected commodore of the Seattle Yacht Club. The water is his hobby, and Roy is some navigator.

* * *

Lester W. Klinefelter has been appointed used car manager by W. L. Eaton, for the Hudson distributor in Seattle.

* * *

Eldridge Motors, Inc., which recently took over Thompson Cadillac Company, in Spokane, has added a Weaver lane to its equipment in that city. Going after service in the modern way of the latest in equipment is a method that this firm relies upon, for a similar set-up is found at the Seattle home of Eldridge Motors.

* * *

Dealers in Seattle report keen interest shown in new models, with crowds at the show floors being large.

* * *

Olympia is somewhat of a Mecca at this time for many car dealers, due to the legislature being in session there. As always, many bills affecting the automobile and car owners are being proposed for enactment into law; some are not so good, and these are being watched.

* * *

PORTLAND, MICH.

A new firm for distribution of automobiles has been organized in Portland, made up of Elmer N. Green, P. W. Willard and B. B. Bowes. The company will continue the business of the former Willard Motor Company, in the same location.

* * *

GRAND RAPIDS, MICH.

C. H. Powers, associated with automobile firms here for several years, has joined the sales force of H. E. Loomis, Inc., Dodge and Plymouth distributor, 332 Ottawa Ave.

* * *

Jacob A. Abfalter, who entered the motor field in 1909 as wholesale representative for Buick, has been made a member of the sales force of the Ted Booth Motor Company, 245 Jefferson Ave., local Nash and Packard agency.

* * *

Sherwood Hall Company, Ltd., Michigan's oldest automobile supply wholesale house, is starting its sixty-ninth year. Originally harness dealers for the horse and buggy trade the company bbought the first carload of automobiles to Grand Rapids nearly twenty years ago. A. V. Hall, general manager, is secretary of the Motor and Equipment Wholesalers Association of America.

* * *

CAMDEN, N. J.

Randolph Chevrolet Company has moved to large quarters at 1759-69 Haddon Ave.

* * *

NEWARK, N. J.

George P. Hamberger, who has been along automobile row for twenty years, for the last twelve with the De Cozen Motor Car Company, is now with Newark Buick Corporation, 198 Central Ave.

* * *

JACKSONVILLE, FLA.

Frank R. Capps has joined the sales staff of the Burwell Motor Company, Ford dealers here.

* * *

OKLAHOMA CITY, OKLA.

New showrooms at Tenth Street and Robinson Avenue have recently been occupied by the Tom Cooper Motor Company, Oklahoma City, distributors of the Nash automobile, offering greater service facilities and additional display space for new cars. The new 1933 Nash models will be displayed here soon, Tom Cooper, president of the company, said. Both new and used cars will be handled by the firm.

* * *

FARGO, N. D.

H. P. (Cub) Buck, former professional football player and coach, has been named sales manager of the Sandie-Buick Company. For the last ten years he has been in the automobile business with the Buick Company at Appleton, Wis.

* * *

ST. PAUL, MINN.

Albert B. Kluge, who has sold automobiles in St. Paul for ten years, has joined the used car staff of the St. Paul Motors, Inc., Fourth Street and Pleasant Avenue.

* * *

MIDDLETOWN, CONN.

The Baldwin Repair Company, 111-117 Church Street, Chevrolet car and General Motors truck dealership, re-elected all officers at the annual meeting January 16. Burr E. Stevens is president; John V. Flanagan, vice-president; Dayton A. Baldwin, treasurer and general manager, and John J. Rutledge, secretary.

WAYNE COUNTY SALES UP IN WEEK JAN. 20

Detroit, Jan. 23.—Wayne county motor vehicle registrations made a definite gain in the week ended Friday, January 20. The total number of passenger cars titled during that period was 5[illegible] together with thirty-three trucks.

This compares with a registration of 509 passenger cars in the week ended January 13, a gain of approximately 15.07 per cent.

FORD CANADIAN PLANT PUTS 1,000 TO WORK

Windsor, Ont., Jan. 23.—The Ford Motor Company of Canada has called 1,000 men back to work tomorrow to start production of the new model.

Wallace R. Campbell, president, would not comment on the new model, which is expected to appear January 28.

BUYS NEVINS BUS LINE

Trenton, N. J., Jan. 23.—The Downtown Bus Company of Jersey City received authority from the Public Utility Commission today to take over operation of the old Nevin Bus Line between Journal Square and the Holland Tunnel entrance, but with permission to use only eight buses. Operation of fifteen buses was sought, on the ground the Nevin Bus Lines had permission to operate that many, and the new owners planned maintaining a five-minute "headway."

M'DARBY FINDS SLIGHT BUT DEFINITE UPTURN

Auburn, Jan. 23.—Indications of a small but definite upturn in the automobile industry during 1933 were noted today by N. E. McDarby, vice-president in charge of sales of the Auburn Automobile Company, on the basis of increased buying interest evidenced during the National Automobile Show in New York.

N. E. McDarby

Citing the New York show as the "most constructive" in recent years, Mr. McDarby emphasized the new attitude of the buying public as indicative of probable improvement in new car sales during 1933.

"Never to my knowledge has the public displayed so intelligent an interest in motor cars as was shown during the New York show," he said. "This fact was emphasized by the stress placed on value ahead of superficial appearance."

Mr. McDarby also reported an increase in Auburn dealer franchises awarded during the 1933 show, as compared with a year ago.

HITCH-HIKING BAN IS SOUGHT IN BILL

Concord, N. H., Jan. 23.—A law prohibiting hitch-hiking, with a penalty of $20 fine for violation, has been proposed in a bill submitted to the New Hampshire Legisature by Representative Ernest S. Brooks of this city. Connecticut adopted a similar measure two years ago.

Another bill, presented by Representative Sanborn of Wakefield, would require all commercial vehicles, such as trucks and tractor units used to haul trailers, to carry a green light at the left of the front mudguard.

Examiners of the Motor Vehicle Department would be given the power of constables with authority to serve criminal processes and to make arrests under a bill which bears the signature of Representative Justin Emery of Rochester.

THIS SALESMAN WORKED HARD AND HE MADE THE SALE

Completing the first year as Chevrolet dealer in the Manayunk-Roxborough section of Philadelphia, a substantial profit was shown by Johnston-Pharo, Inc., due to aggressive methods.

Albert Pharo, president of the company, located at 5913 Ridge Ave., Philadelphia, believes that this success was mostly due to constant aggressiveness on the part of his sales organization. Mr. Pharo has several instances of unusual sales effort to prove his point, but particularly an instance which happened with their leading salesmen, J. A. McIntyre, is most convincing.

McIntyre contacted a prospect early last year and, after eliminating all visible resistances, found at each call on the prospect new obstacles that caused his failure to close the deal. The prospect brought up lack of steady employment, financial reverses, downward trend of the stock market, lack of faith in the future. McIntyre still continued his quest as against this resistance, as he sensed that this prospect would buy eventually.

At one call the prospect stated that he would buy, but that the title to his old car was held by a former friend, who had taken a position as captain of a river barge in the Delaware River. "Now if you can find this barge captain and secure the signed title from him," said the prospect, "I am ready to do business."

With this thought and the suggestion that the barge was in the employ of a large contracting company, McIntyre went to work to find the particular party, armed with a letter from Mr. Prospect, telling the barge captain to turn over the title to him.

McIntyre worked the waterfront of Philadelphia and learned that the barge was lying off Trenton, N. J. He went up to Trenton and further learned that the barge was some five miles off shore. Hiring a rowboat, the only one to be had at the point, which, incidentally was leaking to the point of being unsafe, McIntyre bent to the oars and started his voyage.

The title secured, McIntyre returned to Philadelphia, only to find that his prospect had left for a point in south Jersey to be gone for the rest of the week. The problem was then laid before Mr. Pharo, the president of the company, and it was agreed that McIntyre and Pharo would then track down the prospect. After much telephone and telegraphing the prospect was found, the deal was completed and the car was delivered.

As McIntyre puts it, "As long as there is a spark of hope in a deal it should be followed up."

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"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday, Monday and Holidays and Tuesday When a Holiday Falls on Monday

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ADVERTISING AND BUSINESS HEADQUARTERS

Harry A. Tarantous, Business Manager. 350 Hudson St., New York, N. Y.

B. B. Crighton, Assistant to Business Manager.

George M. Slocum, Manager, Detroit Bureau, 427 Fisher Building, Detroit, Mich.; phone Trinity 2-3500. Willard R. Cotton, Western manager, 333 North Michigan Ave., Chicago, Ill.; phone Andover 2400. Metz B. Hayes, New England Manager, Little Building, Boston, Mass. Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash.

Address ALL Advertising and business correspondence to 350 Hudson St., New York city.

EDITORIAL DEPARTMENT

350 Hudson St., New York, N. Y. Telephone CA nal 6-1000.

Alexander Johnston, Editor. William C. Callahan, News Editor.

Statistical Department (registration and specifications), P. J. Robas, statistician. Engineering Department, Herbert C. Chase, engineering editor. Merchandising Department, Charles S. Zack, editor. Art Department, John Bauerfeld, director.

Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, Detroit, Mich. Telephone Trinity 2-8500. Contributing editor, John C. Wetmore.

What Is Normal

IN a recent article by Stuart Chase, one of the most interesting and stimulating commentators of the present day on matters of finance and economics, we find the writer settling on 1926 as what we may call the fair normal year.

Mr. Chase bases his findings on the reasonable consumption of products by a population of 120,000,000 people accustomed to a certain fairly definite standard of living. If we accept the production and sales records of 1926 as the normal volume necessary to meet the needs and desires of such a population as ours, we have something pretty definite on which to base our ambitions and hopes. Certainly the year 1932 fell far below this estimated normal in most lines of business.

Suppose we glance briefly at what our own industry did in this normal year of 1926. The sale of passenger cars in our domestic market that year was 3,228,401, in addition to which 385,997 commercial car units were sold to American buyers. The grand total of sales in both classes was 3,614,398. That year we expected a total of 598,171 vehicle units. The word "exported," as used here, means not only complete vehicles shipped overseas but those built in American plants located abroad, including Canadian production. The theory is that profits earned by American companies building and assembling cars abroad come back to this country to be spent, which is a reasonable premise.

In 1932 our sales of passenger cars in the domestic market will run under 1,100,000, and we shall probably put about 180,000 commercial car units is users' hands. In 1926, when our population was fewer by some fifteen to twenty million than it is now, is a fair normal, certainly 1932 was an abnormal dip.

In these latter days of a great economic crisis we are beginning to hear an old familiar phrase applied to the activities of the automotive industry. That phrase is "saturation point." According to some commentators, we have reached that final milestone in automotive progress. Our production and sale of motor vehicles will rise, this they grant, from the abnormally low level of 1932, but we must not hope to increase the total or the proportion of motor car and truck users.

We decline to accept this doctrine. These evil times will pass, as they always have done before. America will come back to prosperity, not to the feverish boom of 1928-1929, but to an ability to permit all its people to live according to what they have been taught to consider the American standard of living. A part of this American standard of living is found in the convenience and efficiency of individual motor transportation. Every man who has once owned a motor vehicle and has been compelled by depression to relinquish it, wants and intends to get it back the moment conditions permit. Every man in the country who, through force of circumstances, has not been able to own a car, wants one and intends to have one the moment that conditions permit.

We may grant that, in the years to come, the rate at which first-time motor vehicle owners will be acquired will be lower than was the case some time ago. But unless some other and better means of individual transportation appears upon the horizon the motor vehicle industry will certainly find an increased demand for its products at some time in the future over the comparatively low sales volume of 1932. Even the confirmed pessimists must agree to this. They must base their belief that the demand for motor transportation will continue at present levels on a conviction that "America is done"; that our whole national life has dropped to a lower plane and that our national scale of living will never again reach the standard set in 1926.

We refuse to accept any such opinion. We believe in the future of America and in its ability to come back and re-establish its former standard of living, including the domestic demand for 3,600,000 motor vehicle units, in accordance with the volume of the normal year of 1926.

G. M. C. ANNOUNCES TWO TRUCK MODELS WITH NEW ENGINE

(Continued from Page 1)

mercial vehicles, ideally graduated in power output and torque delivery, and all with valve-in-head engines of uniform design. These, together with the G. M. C. trailer line, enables the General Motors Truck Company to offer a complete line of commercial vehicles ranging in capacity from 1½ to 20 tons.

The improved models, with the more powerful engines, have many features of interest to truck owners.

The truck-built 221 engine delivers more sustained torque per cubic inch of piston displacement than any other engine of comparable size, according to the General Motors Truck Company. Its ability to develop more usable power from a relatively small displacement at normal speeds is a material factor in fuel economy.

The "221" is a G. M. C. six-cylinder engine, valve-in-head type, 3⅛-inch bore x 4⅝-inch stroke. The exact displacement is 221.4 cubic inches. The S. A. E. rating is 24.38 horsepower, and the actual horsepower is 69 at 2,800 r. p. m. Maximum torque is 155 foot-pounds at 1,000 to 1,800 r. p. m.

The crankcase and cylinder block are hard alloy cast iron. The crankshaft is statically and dynamically balanced, counterweighted and equipped with harmonic balancer and mounted in four large main bearings of the removable precision type. Replacement of these bearings requires no dismantling, with the exception of the removal of the oil pan.

Pistons are of special, light-weight semi-steel, notable for its long-wearing qualities.

Lubrication is by force-feed to main, connecting rod and rocker arm bearings. Oil capacity is 7½ quarts. A four-blade fan with roller bearings and centrifugal water pump assures efficient cooling. In addition, the radiator core, which is supported on rubber pads, is of more efficient design and capacity has been increased to 16 quarts.

The 221 engine is designed for accessibility and quick service. The overhead valves are located in a quickly removable cylinder head. The down-draft carburetor is located high on the engine, the best position for fast and easy adjustment, and the main bearings are removable without any dismantling except dropping oil pan as mentioned above. The air cleaner for the carburetor is of the oil-wetted type.

The fuel pump is of simple, positive design and action, maintaining a constant flow of filtered gasoline to the carburetor. The capacity of the fuel tank, located under the seat, is fifteen gallons.

The G. M. C. truck-built clutch is dry-plate, single disk type with ball thrust release bearing. The clutch now has a frictional surface of 92 square inches and engages with greater smoothness.

The transmission is heavy duty, four-speed, sliding gear type mounted as a unit with the engine. Ratios range from a "bulldog" low first, 6.57 to 1, to a second of 3.58 to 1, a third of 1.73 to 1 through to high direct. Reverse is 7.88 to 1.

The T-18 comes in two wheel base lengths, 131 and 157 inches, and the T-23 in 131, 157 and 166 inch wheel base lengths. Maximum body lengths back of the cab on the T-23 are 9 and 12 feet. Pay loads on the T-18 range from 3,370 to 4,230 pounds, and on the T-23 from 4,880 to 6,036 pounds. There are eleven standard body types.

Frames on the two jobs are stronger and stiffer, both being 7 1/16 inches deep by 2⅝ inches flange and ¼ inch thick. Frame rigidity is improved by five and six heavy cross members, the number varying with wheelbase lengths. The rear axle in the T-18 is semi-floating and in the T-23 full floating. The T-18 for 1933 has a newly designed ball-bearing type straddle mounted pinion, and a four-pinion differential construction. Pinion, ring gear and bearings are heavier. The same design is incorporated in the T-23.

The service brake is of the articulated shoe, internal expanding type on all four wheels operated by foot pedal. The emergency hand brake is internal expanding operating special shoes in the drum. Brake drums: front, 12-inch; rear, 16-inch. Brakes are adjustable at each wheel. Wheels are forged Spoksteel with eight instead of five spokes,- five stud, dismountable at the hubs for accessibility under all conditions. Single or dual rear wheels are furnished.

Although sturdier and more rugged, the T-18 and T-23 wear a jaunty air of fleetness. New fender lines, improved lamp equipment and higher, longer hoods, chromium radiator casing coupled with a new cab of pleasing proportions—all combine to make the two jobs look smarter.

The driver is made more comfortable and operation of the truck made easier by enlarged windshield vision, aviation type instruments easily read, a larger rear window and foot controlled tilt-ray headlights. The windshield is higher, it has narrower pillars and the glass is non-glare. The tilt-ray headlamps also have non-glare lenses and are foot controlled.

In This Corner....

Opinions, suggestions, complaints, criticisms, grievances or what have you. Open to every one to say anything, anyhow, any time. The communications printed in this department represent the ideas and opinions of our readers. They are not necessarily ours. If you have something to say on any phase of automotive activity, wholesale, retail or abusive, let us hear from you and we will tell the world.

SORRY; IT WAS AN OVERSIGHT

We feel slighted because you failed to mention Franklin among the passenger cars to be seen at the Boston Automobile Show listed in your issue of January 18.

The date line indicates that this story originated in Boston, so we presume that the sin of omission is chargeable to you.

Franklin exhibited automobiles in the first Boston Automobile Show, has done so in every automobile show since, and this year will enjoy its usual prominent place among the leaders in the industry. We will exhibit the new Franklin Olympic series for 1933, the supercharged Airman series and the twelve-cylinder Franklin and invite you to visit our booth to look them over.

We know that the omission was not intentional, but we just naturally dislike being left off the list when show exhibitors are mentioned. C. A. Hynes, assistant sales manager.

UTICA DEALER GROUP REORGANIZE; ELECT

Utica, N. Y., Jan. 23.—Reorganized under the name of the Utica Affiliated Automobile Dealers, franchise holders in the central New York metropolis have banded together in the spirit of co-operation and determined to forget the last few years and to look for bright spots on the horizon of the future.

With a new cnstitution and by-laws in effect, officers for the year are: I. J. (King) Cole, Cole-Chevrolet, president; David Geffen, De Soto and Plymouth, vice-president; Harry A. Fox, secretary; Leon W. Porter, Nash-Packard, treasurer.

Directors, one year: W. W. Barabrant, Franklin and Reo; Fred J. McRorie, Buick-Pontiac, and George Benas, Chevrolet.

A resolution favoring changing the date of issuance of motor car licenses from December to March or April was adopted. President Cole, in his opening remarks as the new executive, outlined a spirited program which he will push to completion for the benefit of all his associates in the business.

G. M. CANADIAN DEALERS DINE AT NATIONAL SHOW

Toronto, Canada, Jan. 23 (UTPS).—General Motors of Canada dealers and salesmen of the central Ontario zone, gathered here 600 strong for their dinner and convention held in conjunction with the National Motor Show.

C. E. McTavish, general sales manager for General Motors of Canada, reported that 1,183 prospects for cars made by General Motors already had been obtained at the National Motor Show here, as compared with 1,130 during the entire motor show last year. Actual sales of cars had totaled seventy-eight, as compared with 108 for the week last year.

The gathering also was addressed by R. S. McLaughlin, president, who declared that the outside edge of the sea of the depression had at last been reached; E. A. Brown, vice-president and general manager, who outlined the work in customer research activities in order to make it possible for the company to determine exactly what the automobils buyer wanted; William Davidson of Detroit, president of the new device commitee.

BUS TRAFFIC INCREASE BETWEEN N. Y. AND N. J.

Hackensack, N. J., Jan. 23. — A gain in bus traffic over the George Washington Bridge since the Erie Railroad increased its commutation rates on January 1 was indicated today by statistics obtained from Laurence J. Keefe of the Port of New York Authority. Mr. Keefe said:

"Our figures show that during the first ten days of January there were 7,602 buses crossing the bridge, as compared to 7,433 the first ten days of December, and we ascertain there are about ten more buses running each morning, as against the first part of December.

Calendar of Coming Events

JANUARY

20-28—**New York, N. Y.** National Association of Engine and Boat Manufacturers, boat show, Grand Central Palace.

21-28—**Montreal, Canada.** National motor show of eastern Canada. Stadium Building, Adelstau Levesque, general manager.

21-28—**Boston, Mass.** Boston Automobile Dealers Association, Boston Commercial Motor Vehicle Association, show, Mechanics Building. Chester I. Campbell, manager.

21-28—**Jersey City, N. J.** Automobile Show. Midtown Auto Salon, Frank Galland, manager.

21-28—**Baltimore, Md.** Auto Trade Association of Maryland, show. Location undetermined. John E. Raine, manager.

21-28—**Detroit, Mich.** Detroit Automobile Dealers Association, show. H. H. Shuart, manager.

21-28—**Syracuse, N. Y.** Syracuse Automobile Dealers Association show. C. H. Hayes, manager.

22-26—**Detroit, Mich.** Society of Automotive Engineers, annual meeting, Book-Cadillac.

22-28—**Hartford, Conn.** Hartford Automobile Dealers Association show, State Armory. Arthur Fifoot, manager.

23-28—**Rochester, N. Y.** Rochester Automobile Dealers Association Show, Edgerton Park, A. C. Lohman, executive secretary.

23-28—**Pittsburgh, Pa.** Pittsburgh Automobile Dealers Association show W. N. Owings, manager.

25-28—**Harrisburg, Pa.** Harrisburg Automotive Trade Association show, New Farm Show Building.

25-28—**Vineland, N. J.** Automobile Show in Cresci Building.

27-Feb. 15—**Cairo, Egypt.** International Salon.

28-Feb. 4.—**Portland, Me.** Portland Automobile Dealers Association, show, Exposition Building. L. P. Borman, manager.

28-Feb. 4—**Chicago.** National Automobile Show, Coliseum.

28-Feb. 5—**Washington, D. C.** Washington Automotive Trades Association, show.

30-31—**Chicago, Ill.** National Automobile Dealers Association, convention, Medinah Athletic Club.

30-Feb. 4—**Springfield, Mass.** Automobile show.

FEBRUARY

1-11—**Indianapolis.** Twenty-second annual show, Indiana State Fair Grounds.

6-11—**Ottawa, Canada.** Ottawa Automotive Trade Association show, Coliseum. L. M. McCoy, chairman advertising committee.

6-11—**Denver, Col.** Automobile show.

7-11—**York, Pa** York County Automobile Dealers Association, Inc., show. R. C. Keller, president.

9-11—**Springfield, Ill.** Springfield Automobile Dealers Association, show.

9-12—**South Bend, Ind. Automobile Show.**

11-15—**Trenton, N. J.** Annual Automobile Show, Trenton Armory. John L. Brock, manager.

18-23—**Columbus, O.** Automobile Show in Columbus Auditorium.

MARCH

5- 7—**New Orleans.** Automobile Show in Municipal Auditorium. Gordon Herbert, manager.

10-19—**Geneva, Switzerland.** International Automobile Show.

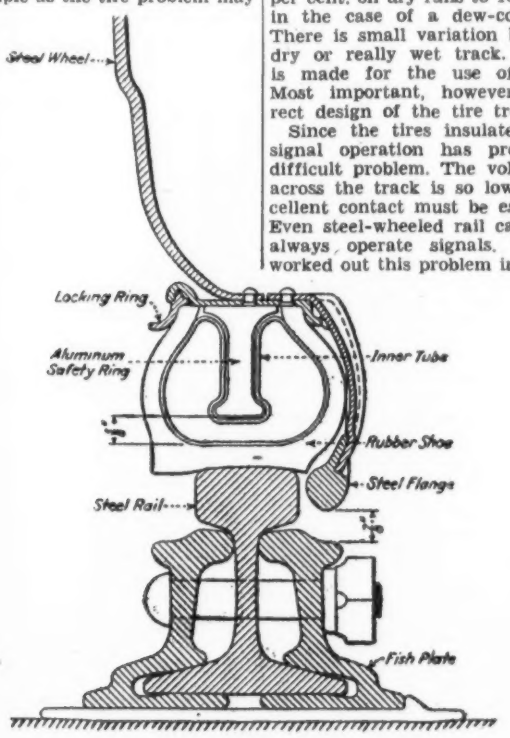
Describes Rubber-Tired Rail Coach to S. A. E.

(Continued from Page 1)

cause earlier breakdown of the tire carcass.

Road and rail surfaces present entirely different problems so far as the tire is concerned. The highway abrades tires, wearing down the tread, and is rarely smooth; bumps of widely varying height and character must be anticipated. No uniformity of condition obtains, but the tire is saved by its capacity to distort in any direction. Conversely, the rail is even and smooth. A badly aligned joint such as would wreck a metal wheel makes no impression on a pneumatic tire. Every condition is favorable except the narrowness of the rail head, and this will continue as long as roadbeds must serve the dual requirement of steel and rubber.

As simple as the tire problem may seem in analysis, the solution represents years of courageous and skilful research on the part of the Michelin company. Out of this has been evolved a rail-car tire which has a life comparable with that of tires in highway service and therefore is commercially acceptable; but the work continues, for it is felt that the full possibilities of load or mileage have not been exhausted. The Goodyear company, operating under license from Michelin et Cie, already has made a notable contribution. That the present limiting load of 2,400 pounds and the present certain mileage of 20,000 will be extended is fully expected. Rail surface will neither abrade nor snag the tire or subject is to unusual distortion. Further, railroad service permits operation at nearly constant speed; stops are anticipated and need not be abrupt.



CROSS-SECTION of wheel, tire and flange showing deflation ring

The present tire, Fig. 1, resembles a normal high pressure tire but has a slightly flatter tread. It is 35x5½ inches and carries air pressure up to 100 pounds per square inch. The area of contact under load is from 17 to 21 square inches, and side distortion is scarcely noticeable.

Inner tubes are made horseshoe shaped in section to envelop the periphery and both sides of the deflation ring. This ring is attached to the wheel rim and extends well up into the shoe, so that, in event of puncture, deflection will be limited. Each tire carries a pressure gauge attached to the wheel. In France this is connected to an alarm system which notifies the engineer of any pressure below normal.

Wheels are of the conventional Budd-Michelin disk type, but the rim is extended along the inward wall of the shoe and terminates in a standard car wheel flange section. A clearance of ¼ inch obtains between each flange and the rail. The flanges suffer little wear, for rubber hugs the rail head and pneumatic tired wheels do not "hunt" as do steel wheels.

Nothing much happens in case of a puncture. The shoe rests on the deflation ring and holds the wheel flange above fishplates and other obstructions. A tire-and-wheel change can be made at the first convenient place.

A blowout at top speed produces no untoward results.

Tires do not bounce so as to interfere with flange guidance. There are no bumps to provoke a bounce. The deflation ring stops any deflection of more than ½ inch. Obviously, the rebound cannot be greater.

Steel wheels have a coefficient of adhesion varying from 25 per cent. on a dry rail to 9 per cent. on a wet one. Pneumatics vary from 60 per cent. on dry rails to 10 per cent. in the case of a dew-coated rail. There is small variation between a dry or really wet track. Provision is made for the use of sanders. Most important, however, is correct design of the tire tread.

Since the tires insulate the car, signal operation has presented a difficult problem. The voltage drop across the track is so low that excellent contact must be established. Even steel-wheeled rail cars do not always operate signals. We have worked out this problem in co-operation with the engineers of the Union Switch and Signal Company and have arrived at a satisfactory solution. Contact with the rail is established through wire-brush blocks mounted between the wheels on both sides of the car.

In France the rail vehicles show a strong bus tendency in design. The passenger load is relatively small, the appointments required are meager, but the speeds are very high. In this coutnry we have felt that a rail-bus answers neither the demand of the traveling public nor the ideas of railroad management. While a cheaper mode of transportation is indicated, that cheapness dare not be obvious. The high cost of rail transport has not been chargeable so much to luxurious equipment as to a type of equipment that is too costly to operate. Correct the latter and the luxury may stay; curtail on accommodation and comfort, and the passenger volume that still remains will drift to other modes of transport.

Thus far, four coaches have been put into service in the United States and twenty-eight in France. Others are under construction. They vary somewhat to accommodate the conditions of their intended use, but all have in common the dual concept of more comfortable transportation at lower cost of operation. The principle is applicable to self-contained units operating under their own power, individually or in trains, or to trailers to be attached to conventional locomotives.

Lightness is the watchword in every case. Pneumatic tires require it; economy of operation makes it an absolute necessity. The empty weight varies from 480 pounds per passenger for a Diesel-electric-driven unit to 350 pounds for a trailer. But in no case can this be attained at the cost of safety. Railroads do not compromise in this re-

(Continued on Page 9)

BALTIMORE SHOW ATTENDANCE HEAVY; SALES RUN STRONG

(Continued from Page 1)

eral manager of the association, and show director, who was kept busy answering telephone offers of space and co-operation, many building owners offering their facilities free of charge in order to aid the industry which means so much in Baltimore's commercial life.

The acceptance of the offered space in the Montgomery Ward Building made possible the biggest show in history, as officials of the company turned over to the show committee more than 70,000 square feet of space all on one floor, 12,000 feet more than would have been available at the armory. Twenty-six makes of automobiles were placed on exhibition, with nearly 225 cars on the floor.

Baltimore automobile men embarked upon the show period with a degree of optimism unparalleled in recent years and cheered by highly encouraging sales figures for the first ten days of the new year. In the initial ten-day period an 88 per cent. increase in new car sales over 1932 was registered, according to statistics supplied by E. Austin Baughman, commissioner of motor vehicles. The figures caused cheer all along automobile row, marking as they did, the first decisive improvement in new car sales for a long, long time. Funk & Ennis, the Chrysler-Plymouth distributors, scored with an increase of from two to thirty-seven in the ten-day period. Chevrolet sales increased from seventy-five to 118, and a number of lines showed 100 per cent. increases on smaller volume, with only a few showing decreases.

Sales figures for the two opening days of the show have not been compiled by show officials, but the number made so far has been highly gratifying to the dealers represented. Equally pleasing was the receptive attitude of the showgoers. That part of the Baltimore public attending the show so far has shown a keen interest in the models, has listened attentively to explanations of the chassis demonstrators and in many instances has remained to buy. One distributor had recorded five closed sales by midafternoon Sunday. Others were working with promising prospect lists.

Optimism regarding the present outlook was expresed by dealers in both low and high priced fields. One representative of a top-bracket car said his sales were better and his list of genuine prospects longer than in many months. Similar statements were made by others.

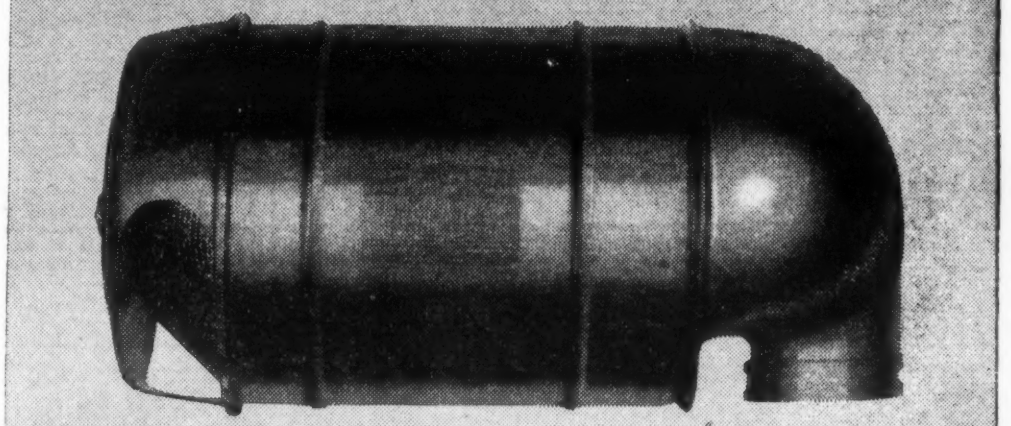
A number of sales meetings have been scheduled for the week which will be climaxed socially on Friday with the annual dinner of the trade association which will be attended by a number of notables, including Gov. Albert C. Ritchie of Maryland, Mayor Jackson of Baltimore, Harold G. Hoffman, New Jersey Motor Vehicles Commissioner; E. Austin Baughman, Commissioner of Motor Vehicles of Maryland, and H. M. Lucius, secretary of the Automobile Club of Maryland.

Among the representatives of the various factories due in Baltimore for show week are A. vanDerZee, general sales manager Dodge Brothers Corporation; William Purvis, assistant general sales manager, and Philip R. Norton, district manager, and Roy H. Faulkner, vice-president in charge of sales of the Pierce-Arrow Motor Car Company; W. W. Barnhardt, regional manager, and C. R. Nicodemus, general service manager.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

The new MONROE

AIR CLEANER *and* SILENCER



Simple - Efficient - Convenient

Available in two types—horizontal and vertical—for both kinds of installation. Instructions for cleaning the purifying element are embossed on casing and are always *visible.*

● The new combination air cleaner and silencer developed by Monroe is winning widespread approval. Already it is standard equipment on several cars.

This new improvement is designed to clean the air passing through the engine, and to silence any roaring or hissing. A new sound-absorbing material, developed after extensive research and experiment, deadens motor noises which formerly escaped unchecked through the carburetor.

The cleaning device is easily taken out by removing one nut on the end of the cleaner. It may then be washed in naphtha or gasoline, saturated with light engine oil, and readily replaced.

Attractive in appearance, the air cleaner and silencer may be obtained in either horizontal or vertical design, according to the installation required.

We will be glad to install the Monroe air cleaner and silencer on your test cars. Write for details.

MONROE

AUTO EQUIPMENT COMPANY • MONROE, MICHIGAN

JERSEY CITY SHOW HAS BIG ATTENDANCE

(Continued from Page 1)

Everett W. Cox, Ashley B. Dunbar, Charles Holsey, Eugene Homan, E. Hoberman, Frank Hoonan, August Southworth, Ike Kassel, Frank Klem, John Krames, Peter Massoline, Alfred Nann, B. Gilardoni, W. N. McNaughton, Harold Williamson, Jack Barnasch, Henry Brauer, William Fass and Walter Lightfoot. Tickets for the show may be secured free at any dealers and at the Jersey City Chamber of Commerce.

On account of the big crowds that are expected at every evening session dealers are stressing attendance in the afternoon wherever possible.

The cars and exhibitors are: Auburn, Wacker Motor Car Company, Jersey City; Buick, Hudson County Buick Company, Jersey City; Chrysler, A. G. Motor Sales Corporation, Union City; Klem Sales Corporation, Jersey City; Kramer Motor Sales, Bayonne; Cadillac Kassel-Cadillac Company, Union City; Chevrolet, Holsey Auto Sales, Jersey City; Dodge, Everett W. Cox Company, Jersey City; Bonnet Motor Corporation, Union City; Alfred Nann, Inc., Bayonne; De Soto, Hoonan Motors, Jersey City; Hudson Garage, Inc., Bayonne; Essex, U. S. Motor Sales Company, West New York.

Ford, Boulevard Auto Sales, Jersey City; Bennett Auto Sales, Bayonne; Franklin, Hoonan Motors, Jersey City; Graham, Royal Motors, Inc., Jersey City; Hudson, U. S. Motor Sales, West New York; La Salle, Kassell-Cadillac Company, Union City; Nash, Nash-McNaughton Sales Corporation, Jersey City; B. Gilardoni, West New York; Plymouth, A. G. Motor Sales Corporation, Union City; Everett W. Cox Company, Jersey City; Bonnet Motors Corporation, Union City; Klem Sales Corporation, Jersey City; Kramer Motor Sales, Bayonne; Alfred Nann, Inc., Bayonne; Hudson Garage, Inc., Bayonne.

Pierce-Arrow, Pierce-Arrow Sales Corporation, North Bergen; Pontiac, Hudson County Buick Company, Jersey City; Rockne, Massoline Motors Corporation, Jersey City; Studebaker, Massoline Motors Corporation, Jersey City; Pierce-Arrow Sales Corporation, North Bergen; Reo, Fuller Motor Company, Union City; Oldsmobile, Dunbar Motor Corporation, Jersey City; Willys, E. Homan Company, Jersey City.

Accessor exhibitors include the Jersey City Storage Battery Company, Hudson County Garage Dealers' Association, Hudson County Safety Council, Jersey City Chamber of Commerce, Hudson County Auto Club and Sam Barnett parts jobber.

AUBURN SALES CO. HOLDS BIG MEETING IN PHILA.

Philadelphia, Jan. 23.—The Auburn Sales Company of Philadelphia, distributors, A. R. Gribben, president, held a big meeting of its dealers, their salesmen and service managers on the fifth floor of its building, 900 North Broad Street. N. E. McDarby, vice-president in charge of sales, and A. H. McInnis, supervisor of service, of the Auburn Automobile Company, addressed the meeting. Shortly after noon all adjourned in automobiles to the Penn Athletic Club, where luncheon was served. The Auburn Sales Company of Philadelphia had opened headquarters for guests at room 702, Penn Athletic Club.

HEAR JORDAN KORP

Springfield, Mass., Jan. 23.—Jordan Korp, research specialist of the Leeds & Northrup Company Philadelphia, spoke on steel hardening practices at a regular monthly meeting of the Springfield chapter of the American Society for Steel Treating in the Chamber of Commerce rooms.

CUMULATIVE NEW PASSENGER CAR

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, in the New York state total. Some of these data have been published previously, but is given here complete for the convenience of our subscribers.

In this table, 31 states and the District of Columbia **Returns for today: Arizona,**

States	AUBURN GROUP			CHRYSLER GROUP					FORD GROUP			GENERAL MOTORS GROUP						
	Auburn	Cord	Totals	Chrysler	De Soto	Dodge	Plymouth	Totals	Ford	Lincoln	Totals	Buick	Cadillac	Chevrolet	La Salle	Oldsmobile	Pontiac	Totals
Arizona					2	12	19	33	71	1	72	8		25		1	3	37
Arkansas							3	3	32		32	1	1	14				16
Connecticut	6		6	19	9	32	166	226	142	2	144	52	3	118	3	6	28	210
Delaware	1		1	3	1	1	21	26	35	1	36	18	2	36	1	3	5	65
Florida	4		4	11	7	16	209	243	396	1	397	31	5	210	1	11	31	289
Georgia	2		2		5	7	57	69	124	2	126	14	1	121		4	15	155
Idaho							5	5	14	1	15	2		15				17
Illinois	10	1	11	37	29	73	372	511	296	14	310	51	19	200	20	20	45	355
Indiana	6	1	7	8	16	32	128	184	221	3	224	21	3	165	1	14	17	221
Kansas	1		1	2	2	7	25	36	146	4	150	6		92		7	15	120
Maryland	4		4	19	9	42	191	261	182	1	183	25		220	1	8	27	281
Michigan	8		8	24	33	224	660	941	786	3	789	141	14	671	7	31	52	916
Minnesota	3		3	14	8	22	206	250	165	2	167	11	1	138	2	22	22	196
Missouri	3		3	17	31	62	283	393	417	5	422	28	5	294	1	19	33	380
Montana	1		1	1		2	4	7	19		19			5			6	11
Nebraska	2		2	1		7	29	37	79		79	4		66		7	5	82
Nevada						1	2	3	2		2	3		4		1	1	9
New York	11	1	12	34	36	102	648	820	570	13	583	116	31	326	7	37	98	615
N. Carolina	2		2	15	6	46	215	282	405	1	406	25	1	306	3	6	24	365
North Dakota							2	2	12		12			6				6
Ohio	12	1	13	59	110	228	1170	1567	1092	19	1111	123	9	1029	12	63	148	1384
Oregon	1		1	5	3	4	48	60	113	2	115	15		69	1	4	1	90
Pennsylvania	23	1	24	121	121	282	1606	2130	1249	18	1267	277	18	957	37	96	211	1596
Rhode Island	1		1	6	8	13	97	124	63	1	64	23	2	25	3	1	6	60
South Carolina	1		1	4	1	5	60	70	168	1	169	8	2	95	1	2	6	114
South Dakota						2	9	11	44		44			26		2	5	33
Utah							4	4	13		13	1		5				6
Virginia	3	1	4	9	9	26	160	204	334	1	335	23	1	155	3	9	38	229
Washington	2	1	3	15	25	49	191	280	198	1	199	23	1	141		10	27	202
West Virginia	3		3	6	6	35	201	248	161		161	11		78	2	8	22	121
Wisconsin	1		1	6	12	45	200	263	215		215	28	3	140	3	10	28	212
Dist. of Col.	6		6	5	7	29	83	124	106	2	108	25	2	92	1	7	36	163
Line Total	117	7		441	496	1406	7074		7870	99		1114	124	5844	110	409	955	
Group Total			124					9417			7969							8556
Arizona, 1931	4		4	4	7	5	21	37	41		41	31		113		6	2	152
Arkansas, 1931						2	6	8	19		19	2		12			2	16
Connecticut, 1931	15	3	18	21	24	25	57	127	147	1	148	146	11	356	3	24	72	612
Delaware, 1931	1		1	7	3	2	8	20	49	1	50	32	2	92		11	17	154
Florida, 1931	11	2	13	51	5	33	194	283	474	1	475	157	3	694		15	64	933
Georgia, 1931				2	4	3	12	21	109		109	24	3	170	1	9	7	214
Idaho, 1931				4	4	3	4	15	53	1	54	7		54		1	2	64
Illinois, 1931	39	7	46	53	40	54	139	286	448	13	461	240	51	623	40	82	94	1130
Indiana, 1931	14	2	16	25	44	32	158	259	376	3	379	139	3	615	2	44	64	867
Kansas, 1931	2		2	11	3	23	40	77	565		565	72	2	629	2	16	52	773
Maryland, 1931	11	2	13	31	9	27	89	156	274		274	93	7	741	4	18	85	948
Michigan, 1931	19	3	22	52	73	77	212	414	753	14	767	652	44	2081	14	141	173	3105
Minnesota, 1931	6		6	20	10	22	69	121	234	1	235	72	3	489		31	45	640
Missouri, 1931	19	3	22	31	33	34	102	200	430	1	431	123	9	781	5	29	66	1013
Montana, 1931						1	2	3	22		22	11		19		1	2	33
Nebraska, 1931	2		2	5	1	7	35	48	161		161	44		278		14	15	351
Nevada, 1931				4			3	7	23		23	9	1	15		3	1	29
New York, 1931	50	22	72	139	110	148	531	928	698	24	722	835	75	1958	30	136	204	3238
N. Carolina, 1931	9		9	47	10	42	108	207	435		435	115	3	872	1	19	63	1073
N. Dakota, 1931					1		1	2	14		14	3		16		1	2	22
Ohio, 1931	57	8	65	136	167	118	568	989	1582	9	1591	416	28	2381	16	149	318	3308
Oregon, 1931				10	10	15	45	80	131		131	35	2	182		4	18	241
Pennsylvania, 1931	92	12	104	279	135	195	717	1326	1836	17	1853	932	100	2679	45	194	328	4278
Rhode Island, 1931	8		8	16	9	12	39	76	71		71	59	7	136	2	8	16	228
So. Carolina, 1931	7	1	8	16	7	11	46	80	197		197	33		366		10	15	424
South Dakota, '31				6	4	9	21	40	53		53	10		49		11	10	80
Utah, 1931					1	1	3	5	33		33	6		21		2	4	33
Virginia, 1931	15	2	17	45	33	37	109	224	569	2	571	97	4	637	2	32	93	865
Washington, 1931	25	2	27	57	59	58	150	324	547	1	548	181	6	684	5	46	89	1011
W. Virginia, 1931	12	1	13	34	19	26	86	165	192	1	193	62	1	365	1	13	50	492
Wisconsin, 1931	11		11	44	30	51	106	231	330	1	331	198	14	703	7	46	82	1050
D. of Col., 1931	8	1	9	10	31	15	53	109	233		233	66	1	292		24	35	418
Line Total, 1931	437	71		1160	886	1088	3734		11099	91		4902	380	19103	180	1140	2090	
Group Total, '31			508					6868			11190							27795

*Not in production.

YOUNGSTOWN STEEL OPERATIONS DECLINE

(Continued from Page 1)

buying is expected to end within the next few weeks, permitting flat-rolled capacity of valley mills to be more fully engaged.

Republic Steel Corporation, one of the larger producers of automobile steel, is oprating its district plants at 19 per cent. of rated capacity, the highest rate in more than six months, but losses at other plants offset this gain.

Carnegie Steel Company has suspended operations at its Ohio works plant, except for some rolling mills, cutting its estimated operating average for the district to 14 per cent. of capacity, compared with 26 per cent. a week ago. The Farrell plant is operating with seven of fifteen open-hearth furnaces and one blast furnace melting.

The schedule for Youngstown Sheet and Tube Company indicates the company is operating at 15 per cent. of capacity, compared with 17 per cent. the week before last, although sheet production is holding up.

Sharon Steel Hoop Company operations are expected to continue at 18 per cent. of capacity for another week, according to valley trade authorities.

KILMARTIN HEADS NORTH CALIFORNIA DEALERS

T. F. Kilmartin of San Jose has been elected president of the Northern California Motor Car Dealers' Association, succeeding Wayne Miller, who has held the office for three years.

The election which places Kilmartin in the chair was held as a feature of the annual meeting of the body at the William Taylor Hotel, San Francisco. In attendance were approximately 125 dealers from the Bay region as well as all sections of the northern part of the state.

Other officers named at the meeting were John H. Eagal, of Stockton, vice-president; William N. Kearns, of Oakland, treasurer, and Henry Williams, of Santa Rosa, secretary. Arthur d'Ettel continues in his post as business manager.

Principal speakers at the annual election meeting were Chester N. Weaver, well-known San Francisco business man and former motor car distributor, and G. H. Moriarty, former prominent factory and sales official in the motor industry.

Resolutions passed by the dealers during the meeting included protests against proposed diversion of the gasoline tax and license tax funds to other purposes than those of highway construction, maintenance and policing.

C. E. WHITNEY DIES

Hartford, Conn., Jan. 23.—Clarence E. Whitney, 63, prominent automotive manufacturer in Connecticut, died suddenly of a heart attack at his home here yesterday.

He was president of the Whitney Manufacturing Company, the Hartford Faience Company and the Liberty Street Realty Company, and secretary-treasurer of the Hanson-Whitney Company and the Hanson Tap and Gauge Company. He was the founder, or one of the founders, of all these companies. He was a director of the Skayee Ball-Bearing Company, which recently removed from Hartford to Philadelphia.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

REGISTRATION STATISTICS, DECEMBER, 1932

which are furnished by the New Jersey Motor List Company, New Car Division, Trenton, N. J. Metropolitan district figures, compiled by Sherlock & Arnold, New York city, are included Readers desiring county, city ortown lists, or lists of owners in any given section may obtain these by addressing any of these three companies.

New York and Washington

States	HUDSON GROUP			STUDEBAKER GROUP				WILLYS-OV-R-D GR'P			NON-AFFILIATED MANUFACTURERS									State Totals
	Essex	Hudson	Totals	Pierce-Arrow	Rockne	Studebaker	Totals	Willys-Overland	Willys-Knight	Totals	De Vaux	Franklin	Graham	Hupmobile	Marmon	Nash	Packard	Reo	Miscellaneous	
Arizona	6	1	7		1	6	7	1		1	1					4	2			164
Arkansas																			1	52
Connecticut	13	5	18	1	11	10	22	8		8		5	4	20		12	12	3		690
Delaware	2		2		1		1	1		1		1		3		3	3			142
Florida	31	2	33		7	5	12	5		5		3	16	1	5	11	6	6	154	1,185
Georgia	3		3		23	2	25	3		3		1	3	7		4	7	2	20	427
Idaho					1		1					1	1			1				41
Illinois	45	3	48	7	20	23	50	29	2	31		9	18	9	1	28	36	12	3	1,432
Indiana	27	6	33	2	8	18	28	12		12	1		4	7	2	6	5		5	739
Kansas	12		12		6	1	7	4		4			1	2	2	3	2		1	341
Maryland	44	10	54	1	22	27	50	51	1	52		3	5	2		13	5		3	916
Michigan	77	25	102	3	67	29	99	25		25	6		26	27		9	16	16	3	2,983
Minnesota	15	2	17		15	9	24	20	1	21			5	37		4	5	2	1	732
Missouri	27		27	3	15	14	32	22	1	23		1	6	21		12	15	8	1	1,344
Montana	1		1											1						40
Nebraska	2		2		4	3	7	8		8			3	4		1	1	1	1	228
Nevada													3							17
New York	62	14	76	14	34	70	118	59	9	68	9	18	35	34	1	55	35	15	13	2,507
N. Carolina	42	5	47		8	4	12	4		4	3		4			2	5	1	31	1,164
North Dakota					2		2													22
Ohio	136	26	162	4	82	40	126	105	4	109	8	14	45	38	4	30	37	8	8	4,664
Oregon	2	1	3		4	6	10	1		1	3		5	2		10		3		303
Pennsylvania	181	28	209	9	91	86	186	130	5	135	2	22	82	81	2	71	62	22	35	5,926
Rhode Island	11	1	12	1	4	4	9	1		1		5	4	6		4	1	5		296
South Carolina	8		8		7	2	9	1	1	2				3			2		36	414
South Dakota	1		1			1	1						1	1		1			1	94
Utah	1		1		1	1	2		1	1			1			1	1			30
Virginia	28	5	32		11	7	18	19	1	20	1	2	5	11		12	3	1	3	881
Washington	25	7	32	1	23	24	48	13	1	14	1	3	7	4		16	3	2	1	815
West Virginia	20	2	22		6	1	7	6		6			6			6	3	1		584
Wisconsin	25	7	32	4	15	9	28	20	3	23	3	2	6	6		22	7	1	1	822
Dist. of Col.	15	1	16	1	11	13	25	83	1	84			8	10		10	8		3	565
Line Total	862	151		51	500	415		631	31		38	90	304	337	17	351	282	109	325	30,560
Group Total			1013				966			662										
Arizona, 1931		1	1			9	9	2		2	1					12	1			260
Arkansas, 1931						1	1	1		1										45
Connecticut, 1931	18	7	25	5		37	42	21	5	26	5	5	13	12		27	13	9	3	1,085
Delaware, 1931	3		3			4	4	7	3	10			1	1		5	5	1	5	260
Florida, 1931	31	24	55	1		28	29	11	5	16	3	3	24	8	7	22	9	2	3	1,885
Georgia, 1931	2	9	11	1		3	4	4		4		1	2	1	3	17	4	3	2	396
Idaho, 1931						3	3				2		2			1				141
Illinois, 1931	42	19	61	11		47	58	73	10	83	4	14	22	17	19	61	61	9	57	2,389
Indiana, 1931	38	20	58	2		45	47	88	3	91	3	13	18	8	12	23	11	4	5	1,814
Kansas, 1931	27	18	45			14	14	45		45		1	3	2	1	12	3	4	6	1,553
Maryland, 1931	26	10	36	7		40	47	24	8	32		5	8	8	3	13	15	6	4	1,568
Michigan, 1931	104	48	152	8	2	86	96	49	17	66	10		45	43	11	36	47	37	21	4,872
Minnesota, 1931	5	11	16			24	24	31	3	34		1	8	8		23	6	4	3	1,129
Missouri, 1931	27	10	37	7		27	34	68	2	70	4	25	18	18	41	19	9	3	9	1,953
Montana, 1931		2	2			2	2	4		4				1		1				68
Nebraska, 1931	3	3	6	1		18	19	23	2	25			2	2		4	1	3	2	626
Nevada, 1931	3	3	6			1	1						1				1			68
New York, 1931	95	45	140	29		244	273	116	40	156	15	35	56	50	17	249	103	33	34	6,121
N. Carolina, 1931	26	10	36			14	14	15	1	16	4	1	3		2	7	5		5	1817
N. Dakota, 1931	1		1					2		2					1					42
Ohio, 1931	113	49	162	5		180	185	304	50	354	19	58	67	57	22	92	54	33	50	7106
Oregon, 1931	4	1	5	1		20	21	7	3	10	2	1	11		3	5	1	5	3	519
Pennsylvania, 1931	141	67	208	33		264	297	297	36	333	30	149	120	94	41	192	117	32	48	9,222
Rhode Island, 1931	14	7	21	7		14	21	8		8	3	2	3	3	1	9	3	9		466
So. Carolina, 1931	7	1	8			10	10	1		1			2	2			1	2	1	736
South Dakota, '31	1	1	2			7	7	6		6	4		1	2		3		2	2	202
Utah, 1931	3	1	4			2	2				4		1	1		9			2	94
Virginia, 1931	34	20	54	3		28	31	17	2	19	1		10	21	1	23	10	7	9	1863
Washington, 1931	26	13	39	3		101	104	48	18	66	20	5	31	16	2	42	11	15	18	2,279
W. Virginia, 1931	15	11	26			17	17	28	6	34	3	1	10	10	1	12	6	7	3	993
Wisconsin, 1931	25	24	49	7		67	74	52	6	58	9	4	15	11	2	64	16	8	6	1939
D. of Col., 1931	6	6	12	6		22	28	18	2	20		3	12	8	1	8	6	2	3	872
Line Total, 1931	840	441		137	2	1379		1370	222		146	327	509	404	191	991	519	240	304	54,383
Group Total, '31			1281				1518			1592										

Production -- Engineering -- Factory

A NEW DIESEL INTERESTING IN ITS DESIGN

A new and interesting compression-ignition engine of Diesel type, has been developed by the Michelmotor Company of Germany. It is called the Michel engine and a sixty horsepower model for passenger car use has recently been presented to the public. This engine weighs 396 pounds, which amounts to 6.6 pounds per brake horsepower.

The power output of this engine is said to be forty horsepower per liter of swept volume, comparing with twelve to fifteen in most compression-ignition power plants. This performance is accomplished at speeds not exceeding 2,000 revolutions per minute.

The Autocar, in a recent issue, describes this Michel Diesel as follows:

The new engine is wholly unconventional and its high performance is due to the peculiar form of the cylinders and to working on the two-stroke cycle. The cylinder units consist each of three radially disposed and water-jacketed cylinders meeting in the center, which forms the common combustion space. Each such cylinder unit has three pistons working on three separate crankshafts. An engine may be built up of any number of these units secured in a strong frame and casing, in which the three crankshafts are secured so htat all working stresses are taken up by the frame.

The cylinders are of the simplest possible design and are not liable to distortion ,to meet which danger particular care has to be exercised in the design of other engines, in which also the detachable cylinder heads constitute quite a problem. The absence of cylinder heads and the favorable shape of the cylinders enable the Michel engineers to work with higher pressures than can safely be employed in conventional engines. This is one of the secrets of the high power output. Mean effective working pressures of 140 pounds per square inch are nothing unusual in a Michel engine, while normal engines work with eighty to ninety pounds per square inch.

The sixty horse power engine that will shortly appear has four units, each with three cylinders, while the drawing illustrates another model having two. The general arrangement of the new engines will, however, be identical with the one shown. The cylinders are arranged standing like a Y with one leg perpendicular, to which is attached in the usual manner the sump casting containing the lubrication pump, which forces oil to the bearings of the three crankshafts through passages in the engine casing, the used oil returning through other such passages.

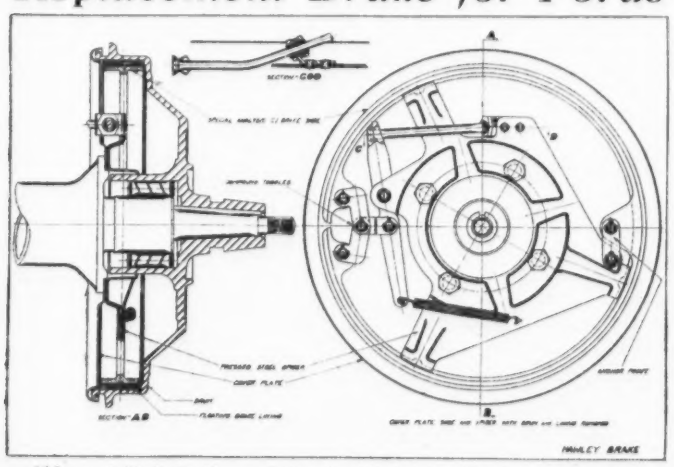
Complication due to the employment of three crankshafts is offset by the absence of valves and camshafts, as these are replaced by ports in the cylinders opened and closed by the pistons. The two upper cylinders in each unit have air inlet or so-called scavenging ports. The air comes in at a pressure of 20 to 22 pounds per square inch and sweeps down the cylinders, driving the exhaust gas out through ports in the bottom cylinder. The pistons in the bottom cylinders have a lead of 24 degrees of crankshaft movement over those in the top cylinders. The exhaust ports also close earlier, so that by the time the air ports are closed there is an initial air pressure of about 21 pounds per square inch in the cylinder unit.

Thus the already compressed air is then further compressed between the three pistons driven towards the center and, the compression ratio being 15 to 1, very high pressure and temperature are generated in this manner. Just before the highest pressure is attained in the cylinder units fuel is sprayed into the hot and turbulent air through a Bosch atomiser located between the top cylinders. The fuel is discharged into a cylindrical chamber open towards the combustion space, from which hot air is forced against the fuel spray to mix the fuel with the air. Owing to the great heat of the latter and the fine atomisation, the fuel is immediately ignited and the resulting increase of pressure in the cylinder unit drives the pistons outwards, they in the meantime having passed their inner dead center position.

An ingenious feature is the coupling of the three crankshafts. These are provided at their rear ends each with a short additional crank, which is gripped by a plain bearing in the corners of a triangular coupling piece consisting of Lautal light metal alloy. The three crankshafts are thus connected in a cheap and efficient manner like the wheels of a railway engine. As the coupling triangle executes a short circling movement gears could also be dispensed with for driving

(Continued on Page 11)

Replacement Brake for Fords



Side and End Sections of Hawley Brake for Ford Replacement.

Hawley-Jones Company, Corning, N. Y., is manufacturing a Ford replacement brake in which both sides of the lining are used as frictional surfaces. This double area feature is obtained by floating the lining freely between the drum and shoe, thus using nearly all the lining surface for work.

Apart from the fact that the brake has very high ability for a given diameter, the mechanism is extremely simple, uses no rivets, provides uniform wear and long life, and is free from noise produced by high unit pressure, it is claimed. The lining, revolves at about half drum speed when brake is applied, and there is no grabbing or chatter, regardless of pressure used.

The accompanying illustration shows the simple construction of the brake in which lining repracement is merely a matter of slipping a new lining in place after the wheel is removed.

The Hawley brake has been applied to buses, in which case a water-cooled shoe is used.

Where Millionths Of an Inch Count

When hot, metals slowly yield under a steady pull, like taffy or cold tar. P. G. McVetty of the Westinghouse Research Laboratory has been investigating this "creep" at high temperature. Automatically held at exact temperatures in individual furnaces, various samples carry heavy loads for months, while sensitive instruments indicate changes of a millionth of an inch. Curves are plotted and the alloys best suited for turbine blades are then selected.

Today steam turbines attain peripheral speeds at the blade tips of fifteen miles a minute and operate at a temperature of over 800 degrees F.

The testing of creep of steam turbine materials represents the highest order of sensitivity and accuracy in all details of the testing procedure. To measure creep rates of this order of magnitude requires not only the measurement of extremely small length changes, but precise measurement and control of temperatures.

While the creep test is the best known means of predicting the value of a material for high temperature service involving small permissible deformations, its limitations must not be ignored. At best, the length of a creep test is small compared to the time during which a material is expected to give satisfactory service. Extrapolation of creep curves is necessary, but great care is essential if large errors are to be avoided.

It is generally agreed that creep is affected by the previous history of the material, especially in the case of alloys which exhibit age-hardening tendencies. We may have, for example, a creep test in which the measured creep rate is negative because some structural change completely hides the creep. A more dangerous case is the one in which the creep is reduced to a small valve during the test by age hardening. In this case the danger lies in the probability of an increased creep rate after the maximum age hardening effect is passed in service.

Neither the designer nor the testing engineer can extrapolate the creep curves with accuracy if internal changes in the metal are proceeding during the test and in subsequent service. This gives to the metallurgist a real problem in producing alloys which are not only resistant to creep, but also structurally stable under service conditions of stress and temperature during the service life of the material.

A Portable Vibrometer

For power plant, field and service work, and for general testing, a new vibrometer is announced by the Starrett Company, Athol, Mass. The accuracy and compactness of this device are said to be especially valuable for vibration studies on small machines or where the clearness is limited.

The instrument consists of a flexibly supported mass, and a dial indicator fastened to the end of a thumb screw and supported by the mass, to measure the amplitude. Vertical movements are measured with the adjustment shown in the photograph, but for indications in the other two principal planes the dial indicator is turned through 90 degrees by means of the thumb screw. To facilitate this adjustment the end of the indicator bears on a circular block. The dial is read through the cut-away portions of the mass by sighting from the side. Laboratory tests show that the vibrometer is reliable for frequencies as high as 6,000 revolutions per minute when the amplitude does not exceed 0.004 inch, and at lower speeds for much higher amplitudes.

The chromium plated vibrometer has a pleasing appearance, and when in its micarta carrying case is not too large to slip into a brief case.

Learning to Measure Riding Comfort

For several years a Riding-Comfort Sub-committee of the Research Committee of the Society of Automotive Engineers has been investigating several possible means of measuring the relative riding comfort of various cars, by determining the degree of fatigue resulting from given rides in certain test cars. The task set has proved difficult, but the final report of the sub-committee, prepared by Dr. F. A. Moss and presented at the annual S. A. E. meeting in Detroit, shows that considerable progress has been made. Dr. Moss is head of the Department of Psychology, George Washington University, where the research program has been carried forward.

It was found necessary to develop not only some new methods of test, but certain new types of measuring instruments, all of which have been described in earlier reports. Subjective opinions of those who have constituted the test riders in the three cars compared have been dismissed as of relatively little importance because of their unreliability. Nevertheless, these opinions appear to have checked with the more precise measurements made by using the instruments developed for the purpose. The latter include a wabblemeter, a visiometer and a reaction-time instrument. All three methods of tests rate the cars in the same order as to riding comfort. A summary of the test conditions and the results secured are given in the following abstract of the report:

Test Conditions—The tests were made on five subjects after riding in the three cars designated as Car A, Car B and Car C. Test conditions may be described as follows:

(a) Cars—The Current model four-door sedan was used for each of the three makes of car. Each of the cars had been driven approximately the same number of miles (about 2,500). Each was maintained and serviced by its own dealers. The same kind of gasoline was used in all the cars.

(b) Subjects—The same subjects were used throughout the tests: three males, aged 41, 25 and 14; and two femals, aged 28 and 22. Each subject went through a series of practice tests before the riding tests began, the purpose being to eliminate the marked practice effect which would occur were the subjects unfamiliar with the tests at the beginning of the tests after riding. At the end of the whole test series, "normal" records were obtained for each of the instruments by taking measurements at the exact time of day of the riding tests, the intervening time being spent leisurely instead of in riding. Living conditions, including such things as food, sleep and activities after the rides, were controlled during the test so two of the subjects made all rides on the front seat and two made all rides on the rear seat. The same man did all the driving.

(c) Route—The route for the test rides consisted of a circuit of approximately 100 miles. It was selected so as to include varying types of road. The complete route was covered on two trips a day, the first starting at 8.30 a. m. and the second at 12.30 p. m. A third trip was made each day, starting at 4. p. m., and differed from the first two in the omission of a twelve-mile part of the trip.

(d) Driving Speed—For the first five cycles all the trips were made at a speed of 40 to 45 m. p. h. On the sixth cycle the first two trips were made at a speed of 50 to 55 m. p. h., and the third trip was made at an average speed of 25 m. p. h.

RESULTS OF THE TESTS

Without letting the subjects know how the actual test results were turning out, each subject was asked at the end of each separate cycle to rate the three cars according to his subjective estimate of their riding qualities. There was a general agreement from the first in rating Car C as the poorest, but both Cars A and B received ratings as the best. However, 80 per cent. of the subjective ratings placed Car A first and Car B second. Car C was placed as poorest in 100 per cent. of the subjective ratings. The fact is generally recognized that a person's subjective opinion is subject to considerable error, and is influenced by all such factors as weather conditions and incidental happenings on a trip. Therefore, we do not attach much importance to those subjective estimates, but give them for what they are worth. Instead, we base our conclusions on the results shown by the impersonal instruments.

(a) Wabblemeter Results — It is known that when an individual first gets out of the car after an automobile ride of more than 100 miles, he feels as if he had "sea legs" under him, and consequently his bodily unsteadiness is very much increased. The longer the ride is, the more unsteady he becomes; and the more shaking, bumping and jolting he is given by the car in which he is riding, the more unsteady he will be when he gets out. To measure this unsteadiness, the wabblemeter was used. Two tests of one minute duration each were taken on each subject, a stopwatch being used for accurate timing. No conversation was permitted during the test and persons were not allowed to move in the field of vision of the one being tested. The tests were always taken immediately after leaving the car and the subject always adopted the same posture on the instrument. Tests were taken at the end of each trip.

The detailed results are shown that there is a clear-cut difference between the cars, the 1,854 miles in Car A causing a total of 2,440 wabbles; in Car B 2,679 wabbles and in Car C 2,718 wabbles. The average percentage change from normal after riding in Car A is 42 per cent., in Car B 56 per cent. and in Car C 58 per cent. Thus it appears that Car A shakes one up less than Car B, and Car B less than Car C.

(b) Metabolic Results—The metabolism of the living body represents the amount of energy the body is producing at a given time. In a word, it shows how much energy a given activity is taking out of the person. Since the energy is influenced by the quantity of food one eats and the time at which he eats it, the quantity of food and the time of eating were kept constant for our subjects. At the end of each day the subjects were given metabolism tests to determine how much energy was being taken out of the individual by each day's ride. The conclusions of this part of the test are convincing, and show that in general a 309-mile ride in Car A takes less out of the individuals than the same ride in Car B or Car C. The average increase in oxygen consumed, taken as a measure of fatigue, was 6.7 per cent. for Car

(Continued on Page 11)

MAKING GAS PUMP MOTORS SAFER

Small explosion-resisting motors which drive pumps at gasoline filling stations have recently been made more foolproof than ever by an ingenious little switch designed by Westinghouse engineers.

Gasoline pump motors are ordinarily supplied with four leads, which may be connected for either 110 or 220 volt operation. Hitherto, it was necessary to open an enclosed fitting and splice the wires; but now it is only necessary to shift the external index plate, which throws a voltage-changing switch inside the motor, connecting the windings for the desired voltage.

A screwdriver is the only tool necessary, and a voltage change can be made in less than thirty seconds. The index plate on the outside gives the voltage connection at a glance.

Describes Rubber-Tired Rail Coach to S. A. E.

(Continued from Page 5)

spect. Collision effect is a direct function of mass. Extra weight aggravates the force to the same extent that it tends to resist it. The pneumatic tired rail coach, while subjected only to proportionate shock, is constructed to withstsand many times this shock. A new development in stainless steel structures has offered the answer.

The Reading-65 was designed for general utility rather than for some specific service. It seats forty-seven passengers and operates through city streets as well as over the main right of way. It contemplates a possible one-man control and a certain demand to run in either direction with equal facility. Double-end operation and one-man control eliminate mechanical drive; Diesel-electric power is indicated. Street operation establishes a turning radius of fifty-five feet and restricts over-all length. This means the mounting of the power plant beneath the floor. Engine, generator and battery are incorporated in one truck, the driving motor in the other. Railroad operation, with possible high-platform loading, fixes floor height and necessitates traps over the step well. Doors, traps and folding steps, in view of one-man control, must be air operated from each end. The seats are reversible. With this outline the picture begins to clarify, and a tentative weight analysis can be made. It sums up:

	Wt., Lb.
Body, complete	8,200
Engine, Generator and Motor	5,500
Trucks	5,000
Accessories and Signal Equip..	2,000
Car Weight, empty	20,700
Passenger Load	6,580
Total weight	27,280

Allowing 2,400 pounds carrying capacity for each of twelve tires, the total permissible weight becomes 28,800 pounds. Then, with the weight and a tentative layout of the car established, the speed and acceleration are determined. These figure at 48 m. p. h. when the gearing provides for an acceleration of 1¼ m. p. h. per sec. This is acceptable, since the service conceived involves frequent stops. A high top speed is not desired, but good starting and stopping qualities are needed for general service.

A 125-horsepower Cummings engine is suitable for the requirement. It delivers 72 horsepower to the axles after deducting electric losses and all power consumed by auxiliaries. This gives a comfortable margin for reserve.

With weights of engine, generator, motor and batteries fixed, drastic reductions are indicated for all other elements. Most phenomenal, perhaps, is the design of the truck frames. One of these has to carry 7,000 pounds of power equipment, including engine, generator and storage batteries, to say nothing of supporting also one-half the body weight and passenger load. Actual weight of the frame is only 285 pounds. Careful analysis and distribution of forces resulted not only in a frame many times lighter than those of conventional design, but having factors of safety far exceeding any possible requirement. There can be no excess metal; every ounce is made to count. Wherever a stress line occurs, an appropriate stainless-steel member is built in. The structure finally looks like a problem in graphical statics.

The body always demands the most intensive study. Weights would run riot if not checked. This is particularly true of appointments and fittings. The main structure represents only 9 per cent. of the total body weight; seats, even after drastic treatment, account for 15 per cent. Glass and cork floor tiling run into large figures. One partition and door weighs more than the sum total of all floor beams. Air engines for operating the doors and traps are twice as heavy as the doors they operate. The horn weighs twenty-five pounds, and there are two of them. And so on down the bill of materials.

The Budd construction departs from customary practice in that the side paneling plays no part in the main structure. This at first seems inconsistent with economy of weight, but actually does not prove so. The outer paneling is fluted, which not only adds to the appearance, but prevents its being stressed.

In other cars under construction, the roof becomes a main strength-member and is most effectively utilized. There, however, it is possible to tie it into the lower portion of the car by suitable shear members. Steel roofing and floor, if correctly designed, can be not only lighter than those of soft materials, but can add materially to strength and safety. Further advantage accrues by tying the floor into the draft gear.

Stainless steel not only offers unusual physical properties, but, through its resistance to corrosion, permits the use of very thin gauges. Its economical application results in quite unconventional shapes and sections. A mere substitution for ordinary steel accomplishes nothing but needless expense.

At the student session of the S. A. E., held tonight in the Book Cadillac, Harvey C. Rentschler, Ph.D., director of research for the Westinghouse Lamp Company, Bloomfield, N. J., took as his subject "Sixty Octanes of Radiant Energy." The general trend of Dr. Rentschler's paper may be summarized as follows:

Transference of energy from the radiation of light and heart from the sun is by means of electromagnetic waves; that is, by the vibrations of a medium occupying space somewhat as the energy of sound is transmitted by the vibrations of the atmosphere. Frequency of vibration determines the pitch of sound and the color of light. When considering electromagnetic phenomena the color type of radiation is best distinguished in terms of wave length. The definition of an octave simply represents two radiations, one of which has a wave length one-half that of the other.

The paper presents interesting and highly important aplications of certain regions of the vast electromagnetic spectrum by description of nine demonstrations which are to be made at the annual meeting by the author, who also will use lantern slides for purposes of illustration.

In and About the Plants

By Chris Sinsabaugh

(Continued from Page 1)

Packard Westchester Company of White Plains, N. Y. With more than 4,000 Packard-owning customers in Westchester county alone, this concern also has taken on the marketing of Dodge and Plymouth cars and Dodge trucks . . . Interesting is the logic of this White Plains concern, which declares that its experience is that many of its customers find second and third cars necessary for their families. Heretofore these customers have been compelled to buy such additional cars elsewhere, but now the company will be able to not only go after these sales but also get the servicing of them.

Hudson-Essex

It had been planned to simply introduce the new Terraplane eight at the New York show, a sort of public preview, and not start seriously on production of this model until later. But the eight clicked so big at the Palace that the factory has been forced to step up production, so that at the present time every effort is being made to meet the demand for the new eight . . . It is declared that 40 per cent. of the sales of late have been for the Terraplane eight, and reports at the factory as to the reception of the job convince the executives that they have struck the popular fancy . . . W. A. James, assistant sales manager, is feeling good about the future, declaring that his dealers tell him that with two models in the low-priced field they feel confident of cashing in . . . From the evidence in hand at the present writing, it looks as if spring business is going to be most satisfactory.

Continental

So strong was the dealer acceptance of the Beacon, the four-cylinder job, at the New York show that it is expected that more than 3,000 units will be produced in the next month . . . Production on the sixes starts this week, having been held back in order to get the Beacon well under way. The reception given the Ace and Flyer has been most satisfactory . . . Building up the distributing organization is the goal sought by Sales Manager Henry Krohn, and at the present time the company has set up 130 distributing points throughout the country, a considerable accomplishment when it is recalled that on December 1 the company had none . . . While the New York show did not produce any retail business, the securing of twenty-seven wholesalers in important points in the eastern territory has been most satisfactory.

Graham-Paige

A greater public interest in automobiles than at any time last year is being noted by C. W. Matheson, general sales manager, who is now in Texas, completing a series of regional meetings with distributors and dealers. On this trip Mr. Matheson, starting from Cincinnati, took in St. Louis and Kansas City before hitting the Lone Star state . . . F. R. Valpey, vice-president, is holding regional meetings for distributors and dealers on the Pacific Coast. Prior to starting for the Far West for sessions in San Francisco and Los Angeles, he conducted similar gatherings in Chicago, Minneapolis and Milwaukee . . . H. D. Wyant of the Wyant Motor Sales Company, Marion, Ind., new Graham distributor, visited the plant last week.

Chrysler

Dealer meetings recently conducted by company executives in various parts of the country are declared to show an enthusiastic acceptance of the 1933 line by both dealer body and the public . . . Joseph W. Frazer, general sales manager, has returned from a trip to Milwaukee and Minneapolis. In Minneapolis 250 dealers were represented from the Minnesota and Dakota territories. They reported that in spite of the fact that the farmers of that section are not receiving much money for their crops, they are beginning to buy automobiles . . . In Milwaukee Mr. Frazer addressed about seventy-five dealers, the consensus being that conditions are relatively good in their territories . . . S. W. Munroe ha been conducting a series of meetings in Ohio, where he reports conditions as "splendid" . . . S. L. Jacobs, director of sales, attended the Buffalo show and found that while the attendance did not set any new records, those that did turn out were of the buying type . . . Earl B. Wilson, director of sales, conducted the largest Chrysler dealer meeting ever held in Kansas City, with 146 in attendance. This body was enthusiastic over the line and optimistic regarding business prospects . . . Although factory officials do not care to release figures as to their shipments, they

(Continued on Page 11)

GAS TAX INCREASE

Boston, Mass., Jan. 23.—The commonwealth next month will receive the sum of $1,173,426, the revenue accruing to the state treasury from the 3-cent gasoline tax last Decem-

er.

ROAD BUILDERS OFFER RECOVERY PROGRAM

(Continued from Page 1)

forms of transportation, flood control, slum clearance, housing, sanitation, sewerage and refuse disposal and public buildings were listed among the projects upon which an immediate start may be made as a vital step toward recovery.

That the launching of this program may be accomplished without increase in taxation, the industry proposes that such improvements as are undertaken be financed out of capital account. In this it envisages a practice identical with that followed by private industry.

Two other emphatic proposals in connection with the financing of the public works program are made in the industry's platform. In connection with the highway program, it advocates "that the revenue raised from motor vehicle fuel taxes and license fees be used exclusively for highway construction and maintenance, and we oppose the diversion of these fees and taxes to other purposes." The other recommendation in connection with financing of such projects is that service charges be assessed against public enterprises such as sewerage and sewerage disposal to put them on a self-liquidating basis.

Following the program enunciated by the American Road Builders' Association, largest of the organizations participating in the congress, the group went on record as urging this change in the Reconstruction Finance Corporation Act: "In view of the ineffectiveness of the construction loan operations that have been carried on under the emergency relief and construction act, we advocate liberalization of self-liquidating requirements and reduction of interest rates by suitable amendments of that act."

That highways are self-liquidating projects, as evidenced by the continued heavy revenue from gasoline taxes, despite the depression, has been pointed out by road builders' officials for the past two years.

A further outstanding recommendation in the industry's fiscal program is that interest rates on fixed obligations be reduced and adjusted by negotiation to conform to the drop in the general price level. In the same connection, the industry is on record in favor of modification of bankruptcy and related statutes to simplify the reorganization of public and private financial structures. Specifically it recommends that approval by a substantial majority of bond holders shall be sufficient to assure such reorganization.

Consistent with its advocacy of private industry's stimulation, the Congress went on record as urging that "the government cease engaging in any form of business and service not clearly necessary to the administration of governmental functions."

CONNORS RE-ELECTED

Akron, O., Jan. 23.—J. H. Connors, vice-president and general manager of the B. F. Goodrich Company mechanical goods division, has been re-elected to serve a second term as chairman of the mechanical goods division of the Rubber Manufacturers' Association.

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Auburn 8-101	Ste	$	K-S	Ele	Cha	USL	Ste	Cas	Dev	LOF	—	Kla	Yes	C	$	—	$	$	Del	2	No	MW	Wo
Auburn 8-105	Ste	$	K-S	Ele	Cha	USL	Ste	Cas	Dev	LOF	—	—	Yes	Yes	$	—	$	And	Del	2	No	MW	Wo
Auburn 12-161	Ste	Borg	K-S	Ele	Cha	USL	Ste	Cas	Dev	LOF	—	Kla	Yes	Yes	$	—	$	$	Hou	2	Aut	MW	Wo
Auburn 12-165	Ste	Borg	K-S	Ele	Cha	USL	Ste	Cas	Dev	LOF	—	—	Yes	Yes	$	—	$	And	Hou	2	Aut	MW	Wo
Austin	NE	$	K-S	Aut-L	Cha	USL	$	$	—	$	—	EA-1	No	No	$	—	No	$	Own	1	No	—	Di
Buick 33-50	AC	$	AC	Oak	AC	DR	AC	Cas	Tern	LOF	—	Kla-2	Yes	No	¶¶	Fish	Yes	And $	Del	1	Iner	KH	¶
Buick 33-60	AC	$	AC	Oak	AC	DR	AC	Cas	Tern	LOF	—	Kla-2	Yes	No	¶¶	Fish	Yes	And	Del	2	Iner	KH	¶
Buick 33-80	AC	$	AC	Oak	AC	DR	AC	Cas	Tern	LOF	—	Kla-2	Yes	No	¶¶	Fish	Yes	And	Del	2	Iner	KH	¶
Buick 33-90	AC	$	AC	Oak	AC	DR	AC	Cas	Tern	LOF	—	Kla-2	Yes	No	¶¶	Fish	Yes	And	Del	2	Iner	KH	¶
Cadillac V-8	AC	Jag	AC	DR	AC	DR	AC	Cas	Tern	LOF	LOF	Kla	—	—	—	Fish	—	And	Del	2	Iner	KH	Wi
Cadillac V-12	AC	Jag	AC	DR	AC	DR	AC	Cas	Tern	LOF	LOF	Kla	—	—	—	Fish	—	And	Del	2	Iner	KH	Wi
Cadillac V-16	AC	Jag	AC	DR	AC	DR	AC	Cas	Tern	LOF	LOF	Kla	—	—	—	Fish	—	And	Del	2	Iner	KH	Wi
Chevrolet	AC	$	AC	DR	AC	DR	AC	$	Tern	LOF	—	Kla	Yes	$	$	Fish	Yes	$	Del	1	No	KH	Wi
Chrysler 6	AC	$	Mot-M	DR	AC	Wil	Mot-M	Yes	—	Pitts	$	Kla	Yes	CS	CS	—	—	—	Del	1	No	MW	Wi
Chrysler Royal 8	AC	$	Mot-M	DR	AC	Wil	Mot-M	Yes	—	Pitts	$	Kla	Yes	CS	CS	—	—	And	Del	1	No	MW	Wi
Chrysler Imperial 8	AC	$	Mot-M	DR	AC	Wil	Mot-M	Yes	—	Pitts	$	Kla	Yes	CS	CS	—	—	And	Del	2	No	MW	Wi
Chrysler Imp. Cust. 8	AC	Wal	Mot-M	DR	AC	Wil	Mot-M	Cas	—	Pitts	Yes	Kla	Yes	$	$	—	—	And	Hou	2	Man	MW	Wi
Continental Beacon	AC	$	K-S	Aut-L	AC	USL	Mot-M	$	—	LOF	$	Sche	—	—	—	—	—	—	—	—	—	—	Wi
Continental Flyer	AC	$	K-S	Aut-L	AC	USL	Mot-M	$	—	LOF	$	Sche	—	—	—	—	—	—	—	—	—	—	Wi
Continental Ace	Ste	$	Mot-M	Aut-L	AC	Nat	Mot-M	$	—	LOF	$	Sche	—	—	—	—	—	—	Hou	2	No	—	Wi
Cord	Ste	$	Mot-M	DR	Cha	USL	Ste	Cas	Tern	LOF	—	Spa	—	$	$	—	—	—	Hou	2	No	Day	Wi
De Soto Six	AC	$	Mot-M	DR	AC	Wil	Mot-M	Cas	—	Pitts	—	Kla-2	Yes	$	$	—	Yes	—	Del	1	No	MW	Wo
Dodge 6	AC	$	Mot-M	DR	AC	Wil	Mot-M	Cas	—	Pitts	—	Kla	Yes	—	—	—	Yes	—	Del	1	No	MW	Wo
Dodge 8	AC	$	Mot-M	DR	AC	Wil	Mot-M	Cas	—	Pitts	—	Kla	Yes	—	—	—	Yes	—	Del	2	No	MW	Wo
Essex Terraplane 6	Wal	$	Mot-M	Ele	AC	Nat	K-S	$	Dura	Pitts	$	EA	Yes	No	No	Own	Yes	No	Mon	2	No	MW	Wi
Essex Terraplane 8	Wal	$	Mot-M	Ele	AC	Nat	K-S	$	Dura	Pitts	$	EA	Yes	$	$	Own	Yes	No	Mon	2	No	MW	Wi
Ford 4	Wal	$	K-S	Hurd	Cha	Own	—	$	Own	LOF	—	Spa	Yes	No	—	—	Yes	No	Hou	2	Yes	Own	Wi
Ford V-8	Wal	$	K-S	Hurd	Cha	Var	—	$	Own	LOF	—	Spa	Yes	—	—	—	Yes	No	Hou	2	Yes	Own	Wi
Franklin Olympic 6	Ste	None	K-S	Yale	Cha	Wil	None	Cas	Dura	LOF	—	Kla	Yes	No	No	—	No	No	Del	2	No	MW	Wi
Franklin 6	NE	Borg	K-S	Yale	Cha	Nat	None	Cas	Dura	LOF	LOF	Kla	Yes	No	No	—	No	No	Del	2	Man	MW	Wo
Franklin 12	NE	Borg	K-S	Yale	Cha	Wil	None	Cas	Dura	LOF	LOF	Kla	Yes	No	No	—	No	And	Del	2	Man	MW	Wo
Graham Standard 6	AC	$	K-S	DR	Cha	Wil	K-S	$	Dura	LOF	—	Kla	Yes	No	No	—	No	—	Del	1	No	MW	¶
Graham Standard 8	AC	$	K-S	DR	Cha	Wil	K-S	$	Dura	LOF	—	Kla	Yes	C	$	—	No	—	Del	1	No	MW	¶
Graham Custom 8	AC	$	K-S	DR	Cha	Wil	K-S	$	Dura	LOF	—	Kla	Yes	C	$	—	No	—	Del	1	No	MW	¶
Hudson Super 6	Ste	$	Mot-M	Ele	AC	Ex	Mot-M	$	Dura	Pitts	$	EA	Yes	$	$	Dole	Yes	No	Mon	2	No	MW	Wi
Hudson 8	Ste	$	Mot-M	Ele	AC	Ex	Mot-M	$	Dura	$	—	EA	Yes	$	$	Own	—	No	Gab	2	Man	MW	Wi
Hupmobile 321	Ste	$	Ste	Ele	Cha	Wil	Ste	$	Dev	Pitts $	$	Spa	—	No	No	—	Yes	None	Gab	2	Aut	MW	¶
Hupmobile 322	Ste	$	Ste	Ele	Cha	Wil	Ste	None	Dev	Pitts	$	Spa	—	No	No	—	Yes	None	Gab	2	Aut	MW	¶
Hupmobile 326	Ste	$	Ste	Ele	Cha	Wil	Ste	Cas	Dev	Pitts	Pitts	Spa	—	No	No	—	Yes	B&S	Gab	2	Aut	MW	¶
La Salle V-8	AC	Jag	AC	DR	AC	DR	AC	Cas	Tern	LOF	LOF	Kla-2	—	—	—	Fish	—	And	Del	2	Iner	KH	Wi
Lincoln V-12	Wal	Wal	K-S	Oak	Cha	Ex	K-S	—	—	LOF	—	Spa-2	Yes	Own	Yes	—	Yes	And	Hou	2	Aut	KH	SS
Lincoln V-12	Wal	Wal	K-S	Oak	Cha	Ex	K-S	—	—	LOF	—	Spa-2	Yes	Own	Yes	—	Yes	And	Hou	2	Aut	KH	SS
Marmon 16	AC	Jag	AC	DR	Cha	Ex	AC	Cas	Tern	LOF	LOF	Spa-2	—	Yes	—	—	No	And	Hou	2	Aut	MW	Wi
Nash 6	Ste	$	K-S	Aut-L	AC	USL	K-S	$	Var	Pitts	$	Spa	—	—	—	—	Yes	Yes $	Gab	2	Aut	MW	¶
Nash Standard 8	Ste	$	K-S	Aut-L	AC	USL	K-S	$	Var	Pitts	$	Spa	—	—	—	—	Yes	Yes $	Gab	2	Aut	MW	¶
Nash Special 8	Ste	$	K-S	Oak	AC	USL	K-S	$	Var	Pitts	$	Spa	—	CS	—	—	Yes	Yes $	Del	1	Man	MW	¶
Nash Ad. Twin Ign. 8	Ste	$	K-S	DR	AC	USL	Ste	$	Var	Pitts	$	Spa	—	CS	—	—	Yes	Yes $	Del	2	Man	MW	¶
Nash Am. Twin Ig. 8	Ste	Borg	K-S	DR	AC	Ex	Ste	Cas	Var	Pitts	$	Spa	—	CS	—	—	Yes	Yes $	Del	2	Man	MW	¶
Oldsmobile 6	AC	—	AC	DR	AC	DR	AC	—	Tern	LOF	—	Kla-1	Yes	—	—	Fish	Yes	And	Del	2	No	K-H	St
Oldsmobile 8	AC	—	AC	DR	AC	DR	AC	—	Tern	LOF	—	Kla-1	Yes	—	—	Fish	Yes	And	Del	2	No	K-H	St
Packard 8	Wal	—	Mot-M	NE	AC	Pre	K-S	Cas	—	LOF	LOF	Spa	Yes	—	—	Own	—	—	Del	2	Man	MW	Wo
Packard Super 8	Wal	—	Mot-M	NE	AC*	Pre	K-S	Cas	—	LOF	LOF	Spa	Yes	—	—	Own	—	—	Del	2	Man	MW	Wo
Packard 12	Wal	—	Mot-M	NE	AC	Pre	K-S	Cas	—	LOF	LOF	Spa	Yes	—	—	Own	—	—	Del	2	Man	MW	Wo
Pierce-Arrow 836	NE	Borg	K-S	Oak	Cha	Wil	K-S	Cas	Dura	Pitts	Pitts	EA	Yes	Yes	—	—	Yes	And	Del	2	No	KH	Wi
Pierce-Arrow 1236	NE	Borg	K-S	Oak	Cha	Wil	K-S	Cas	Dura	Pitts	Pitts	EA	Yes	Yes	—	—	Yes	And	Del	2	No	KH	Wi
Pierce-Arrow 1242-7	NE	Borg	K-S	Oak	Cha	Wil	K-S	Cas	Dura	Pitts	Pitts	EA	Yes	—	—	—	Yes	And	Del	2	No	KH	Wo
Plymouth 6	AC	—	Mot-M	DR	AC	Wil	—	—	—	Pitts	—	Kla	Yes	—	—	—	Yes	—	Del	1	No	Bu	Wi
Pontiac Straight 8	AC	—	AC	DR	AC	DR	AC	—	Tern	LOF	—	Kla	Yes	—	—	Fish	Yes	—	Del	1	No	KH	Wi
Reo Flying Cloud	—	No	K-S	DR	Cha	Wil	K-S	Cas	—	LOF	—	Kla	Yes	—	—	—	No	No	Del	2	No	MW	Wi
Reo Royale	—	No	K-S	DR	Cha	Wil	AC	Cas	—	LOF	—	Kla	Yes	—	—	—	Yes	And	Del	2	No	MW	Wi
Rockne Six	Ste	—	K-S	Aut-L	Cha	Wil	K-S	—	Han	LOF	—	Spa	—	$	$	—	Yes	And	Del	1	No	KH	Wi
Studebaker 6	Ste	—	AC	DR	Cha	Wil	Ste	—	Var	LOF	LOF	Spa	—	—	—	—	Yes	And	Hou	2	Aut	Bu	SS
Studebaker Com. 8	Ste	—	AC	DR	Cha	Wil	Ste	—	Var	LOF	LOF	Spa	—	—	—	—	Yes	And	Hou	2	Aut	Bu	SS
Studebaker President 8	Ste	Borg	AC	DR	Cha	Wil	Ste	Var	Var	LOF	LOF	Spa	—	—	—	—	Yes	And	Hou	2	Aut	Bu	SS
Studebaker Spd. Pres. 8	Ste	Borg	AC	DR	Cha	Wil	Ste	Var	Var	LOF	LOF	Spa	—	—	—	—	Yes	And	Gab	2	Aut	Bu	SS
Stutz LAA	Ste	Wal	Ste	DR	Cha	Pre	Mot-M	Cas	Tern	Pitts	Pitts	Kla	—	—	—	—	—	$	Gab	2	Aut	MW	Wo
Stutz SV-16	Ste	Borg	Ste	Oak	Cha	Pre	Ste	—	Tern	Pitts	Pitts	Kla	—	—	—	—	—	$	Gab	2	Aut	MW	Wo
Stutz DV-32	Ste	Borg	Ste	Oak	Cha	Pre	Ste	—	Tern	Pitts	Pitts	Kla	—	—	—	—	—	$	Gab	2	Aut	MW	Wo
Willys 77	NE	$	Mot-M	Aut-L	Cha	USL	$	—	Var	$	—	Sch	—	No	No	—	No	$	Mon	1	No	KH	Di
Willys 99	NE	—	Mot-M	Aut-L	Cha	USL	Mot-M	No	Var	LOF	—	Sch	—	No	No	—	Yes	$	—	—	No	KH	Di

KEY TO SYMBOLS AND ABBREVIATIONS

Speedometer—Ste, Stewart-Warner Corp.; NE, Delco Appliance Corp.; AC, AC Spark Plug Company; Wal, Waltham Watch Company.

Clock—Borg, G. W Borg Corp.; Jag, Jager Watch Company; Wal, Waltham Watch Company.

Fuel Gauge—K-S, King-Seeley Corp.; AC, AC Spark Plug Company; Mot-M, Moto Meter Gauge and Equipment Corp.; Ste, Stewart-Warner Corp.

Lock—Ele, Electrolock-Mitchell Specialty Company; Aut-L, Electric Auto-Lite Corp.; Oak, Oakes Products Corp.; DR, Delco Remy Corp.; Hurd, Hurd Lock Company; Yale, Yale & Towne Mfg. Company; NE, Delco Appliance Corp.

Spark Plugs—Cha, Champion Spark Plug Company; AC, AC Spark Plug Company.

Battery—USL, USL Battery Corp.; DR, Delco Remy Corp.; Wil, Willard Storage Battery Company; Nat, National Lead Battery Company; Var, various makes; Ex, Electric Storage Battery Company; Pre, Prest-O-Lite Company.

Heat Indicator—Ste, Stewart Warner Corp.; AC, AC Spark Plug Company; Mot-M, Moto Meter Gauge and Equipment Corp.; K-S, King-Seeley Corp.

Cigar Lighter—Cas, Casco Products Corp.; Var, various makes.

Hardware Make—Dev, Deveraux-Keeler Brass ompany; Tern, Ternstedt Mfg. Company; Dura, Dura Products Mfg. Company; Var, various makes; Han, Hancock.

Windshields — LOF, Libbey-Owens-Ford; Pitts, Pittsburgh Plate Glass Corp.

Horns—Kla, Klaxon, Delco Remy Corp.; EA, EA Laboratories; Sch, Schwarze Electric Company; Spa, Sparton, Sparks Withington

Ventilating Systems—Fish, Fisher Body Corp.; Dole, Dole Valve Company.

Spring Covers—And, Andersen Mfg. Company; B&S, Briggs & Stratton.

Shock Absorbers—Del, Delco Products Corp.; Hou, Houde Engineering Corp.; Mon, Monroe Auto Equipment Company; Gab, Gabriel Company.

Ride Control—Aut, Automatic; Iner, Inertia; Man, Manual.

Wheels—MW, Motor Wheel Corp.; K-H, Kelsey-Hayes Wheel Corp.; Day, Dayton Wire Wheel Corp.; Bu, Budd Wheel Company; Wo, Wood; Wi, Wire; SS, Steel Spoke Artillery; St, Steel Spoke; Di, Disc.

Symbols..C, coupe; CS, convertible sedan; $, extra equipment at additional cost; *Wire or wood wheels optional; ** Built-in trunk is standard on 5-pass. Victoria coupes on 50, 60 and 80 series and Club sedan on the 90 series.

MIDLAND TERMINAL OILER HAD GOOD YEAR IN '32

New York, Jan. 23.—O. A. Eskuche, service manager of Warren-Nash Motor Corporation in this city, which distributes the Midland battery terminal oiler in this territory, announced today that in 1932 sales of this little part had enjoyed the best year in history.

This Midland terminal oiler is designed to prevent corrosion, the felt pad on top of the alloy pan forming a gasket joint under the terminal to keep battery acid and gas from coming in contact with terminal and bolt. Before installing, the pad is saturated with clean oil and the terminals are thoroughly cleaned.

NEWARK SHOW ENDS, SALES, CROWDS GOOD

Newark, N. J., Jan. 23.—Newark's 1933 Automobile Show is history. With the usual accompaniment of braying horns and clanging bells it closed Saturday night in the 133d Regiment Armory. It was a show that will not be soon forgotten by the public or the industry.

High officials of the factories, on their way West after the New York show, stopped off here to marvel at the completeness of the Newark exhibit, at the enthusiasm and energy of the salesmen, at the optimism of the dealers, but most of all were they impressed by the keen interest of the public.

Automobile shows in other years since the depression began have lacked spontaneity. Dealers and their staffs were perfunctory in greeting visitors, and the visitors, in turn, were perfunctory in their examination of the cars. They glanced hurriedly over the models, cocked admiring eyes at the decorations, yawned and murmured, "Let's go to the movies."

But this year, veteran observers of show crowds agreed, it was different. They gathered in mobs at outstanding exhibits, asked searching questions and roamed the aisles for hours. This year it was apparent that the show was not merely a place to go, but a market place. In the vistors' eyes, to the keen delight of salesmen, gleamed buyers' fire.

The altered psychology was reflected among the leaders of Newark automobile trade. Claude E. Holgate, show manager, who is as competent an observer as the trade possesses, felt it strongly, and his views were echoed by Alfred De Cozen, trade association president; Joseph Bell, Buick dealer, and William Mallon, Pontiac dealer, as they talked things over in Holgate's office on the show floor late in the week.

"It is something more than sales," Holgate said. "It's a matter of mental attitude. While most of the sales were in the medium and low price classes, inquiry was eager and business-like in all classes.

"If Washington and those boys in Congress don't kick things over, this show has proved that this country is getting ready to go somewhere. These crowds are more than curiosity seekers; they are buyers."

Phil Merrill, Chrysler's sales promotion manager, was easily the individual hit of the show. In his brass-railed space with a Chrysler chassis, cut down to reveal important working parts, his talks held crowd after crowd enthralled. Seemingly tireless, his enthusiasm unflagging, he carried on hour after hour; and it wasn't his fault if every hearer didn't carry away with him detailed knowledge of the Chrysler's innards. Even salesmen of competing makes listened to him with admiration. A close second in holding visitors' attention was J. D. Smith, Plymouth's suave sales promotion chief, who, figuratively, took his car apart and put it together again for the benefit of fascinated listeners.

Keen attention went to the radically designed Willys, about which clustered thick knots of visitors. For one thing, Willys exploded dealers' theories about placement in the show. Most of them have always listed center spaces in their applications and have been chagrined if the drawing conducted annually by the automobile editors of the Newark newspapers placed them on the sides. Willys was far down the floor in a side space, yet its models drew the crowds like magnets.

"It just goes to show," said Mr. Holgate, "that it doesn't make much difference where you are; every space on the floor is a good space. What you have to offer counts."

A NEW DIESEL INTERESTING IN ITS DESIGN

(Continued from Page 8)

the necessary auxiliaries. The Bosch fuel injection pump has a short driving crank which is actuated by this triangle, and in the same manner are operated the lubrication pump, the water circulation pump, and the dynamo. Also, an air compressor or suction pump for operating brakes can be driven in this simple and noiseless manner.

The scavenging air pump is a very interesting component. The space inside the coupling is furnished with a box-like frame, something like a cigar box with the top and bottom removed. The box-like frame moves between two stationary plates, against which it is forced and made air-tight by spring-loaded metal strips. Fixed inside, between the stationary plates, is a slide valve, the sliding part of which divides the interior of the box into two air-tight sections. The top and bottom edges of the slider move on the corresponding members of the box frame and the sides of the stationary plates.

The engine is small and therefore light and is probably no more expensive to produce than other engines. Fuel consumption is given as being 0.38 to 0.40 pound per brake horsepower. Accessibility of all parts is as good as that of a normal engine. The two upper crankshafts are covered by a light metal case, which can easily be removed, whereupon the main bearings can be taken out and the crankshafts removed, together with the connecting rods and pistons. Individual connecting rods and pistons can easily be taken out. The removal of the cylinders in the same way presents no difficulty, while the lower crankshaft is no less accessible than that of normal engines.

Learning to Measure Riding Comfort

(Continued from Page 8)

A, 10 per cent. for Car B and 14.2 per cent. for Car C.

(c) Reaction-Time Test—That the speed of a neural impulse is influenced by fatigue is generally recognized. In general, the more fatigued the person is the slower will be his reaction time. This is of considerable importance from the viewpoint of safety in automobile driving, especially when an individual faces a dangerous situation and finds it necessary to move his foot from the accelerator to the brake in order to avoid an accident. A difference of a fraction of a second in speed of reaction may and often does mean the difference between an accident and the avoidance of one.

For measuring the reaction time, the instrument devised for this purpose was used. The average results for all reaction-time readings for the various cars show that Car C was by far the poorest in this respect Part of its poor showing may be due to the way the accelerator is arranged in respect to the brake, but, regardless of the cause, a driver apparently would be more competent to meet an emergency if driving Car A. The reaction time for Car A was .23 second, Car B, 0.27 second and Car C, 0.31 second.

In and About the Plants

By Chris Sinsabaugh

(Continued from Page 9)

say that the month of January will be far ahead of the same mnth in 1932. The first three weeks of the month were in excess of the complete month last year, it is reported . . . Chrysler driveaways have been greatly stimulated by the open winter Detroit is enjoying, and every day sees a large delegation of dealers at the factory taking deliveries.

Oldsmobile

No definite figures are available as to production at Lansing, but it is understood that the assembly lines are running to schedule . . . The reception given the new line at the New York show was most gratifying, and R. M. W. Shaw, sales manager, returned to Detroit with the assertion that sales were two to one compared with last year . . . One important dealer connection is announced. The Noyes-Buick Company of Boston, which has sold Buicks since 1915, and which has one of the largest and strongest organizations in New England, has added the Oldsmobile, its franchise calling for Boston and vicinity. It might be mentioned in passing that this company sold Oldsmobiles prior to taking on Buick in 1915.

Rockne

Encouraging news comes from this Studebaker subsidiary. The January schedule has been oversold, as was the case in December also. The factory is running six days a week, and the pressure has been so great that the plant not only worked last Sunday but the previous Sunday as well. The February outlook is declared to be most encouraging . . . George Graham, vice-president in charge of sales, continues to be in demand as a speaker. Last Friday night he visited Toronto, where he addressed the dealers' association.

Plymouth

There seems to be no slowing of production at this busy plant, and it is expected January will show a return of around 15,000 units, which will be far in excess of what was turned out in the same month a year ago . . . Export business is picking up, it is declared . . . Plymouth executives are in great demand for radio talks. Harry Moock, general sales manager, went on the air over WJR Sunday night, pointing out the wonderful values in 1933 cars and urging Detroiters to go to the Detroit show and see for themselves. B. E| Hutchinson, chairman of the board, is billed for Wednesday night over the same hook-up.

Buick

Encouraged by results at the New York show, both at the Waldorf and the Palace, Buick is stepping along on production to meet the orders booked. While the executives will not get specific as to the number of units sold, it is understood that retail sales were three times as great as a year ago . . . In anticipation of the Chicago show, there have been meetings of regional managers at headquarters, so that Buick will be all set for a repetition of the New York success.

We *Add* To Our Staff

Herbert Chase, M. E.,

Engineering Editor
Automotive Daily News

AUTOMOTIVE DAILY NEWS for some time past has published more engineering news than any other paper in the industry. Its engineering department will now be considerably improved under the direction of Herbert Chase.

Already accepted as the leading executive paper, Automotive Daily News will now have even greater appeal to factory men including engineers, production men, purchasing agents and others.

Under Mr. Chase's direction reports of engineering meetings, car descriptions, new production machinery, new shop equipment, etc., will be covered, not only as quickly as possible but with the thoroughness and authenticity characteristic of this engineering writer.

Known in practically every important plant in the automotive industry Mr. Chase welcomes the cooperation of engineers, production men and others and will be happy to receive communications from them on subjects with which they are acquainted. Manufacturers of accessories, parts and shop equipment should communicate with him with respect to engineering news, introduction of new items, new manufacturing processes and other matters of interest to the engineering and technical branches of the automotive field.

Biography

HERBERT CHASE for more than 20 years a prominent member of the S. A. E. is widely known as a writer on automotive engineering subjects. He is among the best known authors in the metal-working field and his numerous papers presented before the S. A. E. and other engineering societies are second to none in interest, timeliness, clarity.

Shortly after his graduation from the Sibley School of Mechanical Engineering, Cornell University, in 1908, with the degree of Mechanical Engineer, Mr. Chase became laboratory engineer of the Automobile Club of America where he built up what was then the finest research laboratory in the automotive field. In recognition of his work there he was elected a member of the Honorary Research Society, Sigma Xi. His published reports of tests of engines and other automotive equipment in the A. C, A. laboratory were classics and even yet serve as reference material for engineers.

He was also elected treasurer of the S. A. E. and as such served as a member of the council for two years. After leaving the club to become assistant secretary of the society under Coker F. Clarkson, then general manager, Mr. Chase took an even more prominent part in S. A. E. work. During the war he was placed in charge of the Washington office of the society and had much to do with the important work it conducted in co-operation with the government. He also served on a power plant committee of the National Advisory Committee for Aeronautics.

After severing his official connection with the society shortly after the Armistice, he spent a few months in research and engine design work, after which he became engineering editor of Automotive Industries, a position he held for several years. He later was made manager of the research department of that publication.

Later Mr. Chase joined the McGraw-Hill Publishing Co. and was appointed associate editor of American Machinist. He also had much to do with the establishment of Product Engineering and was associate editor on its staff while still serving on American Machinist. He wrote extensively for both publications on engineering and production subjects.

Author of several text books on automotive engineering subjects, he also has written for several European publications, including British Plastics and Synthetic and Applied Finishes, covering two fields which he has followed closely for some years.

Besides his general activities with the S. A. E. as a parent body, Mr. Chase was a founder member of its first section, the Metropolitan Section, and served for several years as one of its officers. He has presented many papers before this and several other sections of the society, both in this country and Canada, as well as before meetings of the American Society of Mechanical Engineers and of the American Institute of Electrical Engineers. He has also served as a member of many S. A. E. committees, including the Standards, Publications, Nominating, and others.

Automotive Daily News

H. A. TARANTOUS, *Bus. Mgr.*, 350 HUDSON STREET, N. Y. C.

DETROIT OFFICE: Geo. M. Slocum, Manager
Fisher Building, Detroit, Mich.

WESTERN OFFICE: Willard R. Cotton, Manager
333 No. Michigan Ave., Chicago, Ill.

What Does a Consumer Consume? And How? And When? And Why?

One of the most amusing of statistics that has been produced in recent months is a series of charts showing that the readers of a certain magazine are at the top of the list of possessions. *Apparently it has never even occurred to that publication that the top of the list of possessions is nearly always the bottom of the list of demand.*

Even the little shop girl knows this. The first question she always asks her boy friend is, "Are you married?"—knowing very well that if he is, he is no longer a marketable product for matrimony. And he is immediately reduced to the bare possibility of a repossession or a replacement value.

The real, original consumer-market is not there.

But if the purpose of this page were merely to show that the top of the list in possessions is too often the bottom of the list of demand—if our objective were merely to present the facts that True Story readers, according to the most recent survey, owned the least number of radios in 1930 and have bought the greatest number in 1932, or that they head the list in the 1932 purchase of new and used automobiles, or that even in the matter of such comparatively recent contrivances as electric clocks they were at the bottom of the list of ownership in 1930 and at the top of the list of purchasers in 1932—if the purpose of this page were merely this, it might be very devastating as a present attack, but it would not be very thoughtful of the future rearrangement of American affairs. Every sales manager already knows only too well that he can no longer get his quota of sales from the same old sources that he used to look to years ago.

Capital and labor, the manufacturer and the wage-earner, are still bound together for the one objective, and neither can obtain that objective without the other. Mass production must go to mass consumption; it cannot go anywhere else.

So the object of this page is to try to find out what that *capacity* for consumption on the part of wage-earning America is today. How much of his purchasing power has the wage-earner left? How fast can he go in helping you, and thereby in helping himself, toward economic recovery?

To begin with, we know, from the constant flow of evidence that comes to our desk, that the *resiliency* of the American wage-earner is the greatest of any class, anywhere in the world. When he gets a job he can start spending. When he has a job he can keep spending. *That is because he has no social objectives to maintain, no social position to hold nor to go in debt for.*

Second, we know, from these same innumerable documents, that while the wage-earner has suffered the most where he has suffered at all, he has suffered the least in the general run of affairs. Commodity prices came down, even before wages came down, and are still below the comparative level of the wage scale.

So his buying power, in spite of the perfect devastation that surrounds the unemployment group, is undoubtedly the greatest buying power in America today, not only in volume but in actual percentage. In volume, of course, because of the enormous masses involved, it is tremendous. In fact, it is about the only thing that still keeps the wheels of business turning today.

Now, when we take the reflection from some two million True Story readers, showing quite evidently their spending capacity, and then turn to this most recent survey, which seems to be the talk amongst American businesses, we find a verification of this fact which is rather startling.

Here amongst the famous trade-marked names, which America knows as well as it knows its own, we find the True Story percentage of purchase now practically equal to that of the Social Front.

In other words, amongst the nationally known, famous brands of toilet soaps, hand lotions, salad oils, gelatine desserts, coffees, cleansers, baking powders, yes, even ginger ales, there is seldom any difference between the actual purchases per thousand homes of the Social Front and those of the wage-earning masses.

So that when you multiply these figures per thousand of the wage-earning masses by the tens of millions of wage-earners who are still employed, it doesn't require much perspicacity to understand that the buying capacity as well as the trade-mark demand of America is still in the hands of the wage-earners of America, and that the speed of our recovery will be in direct proportion to the sustaining of that capacity, and the fostering of that demand.